



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

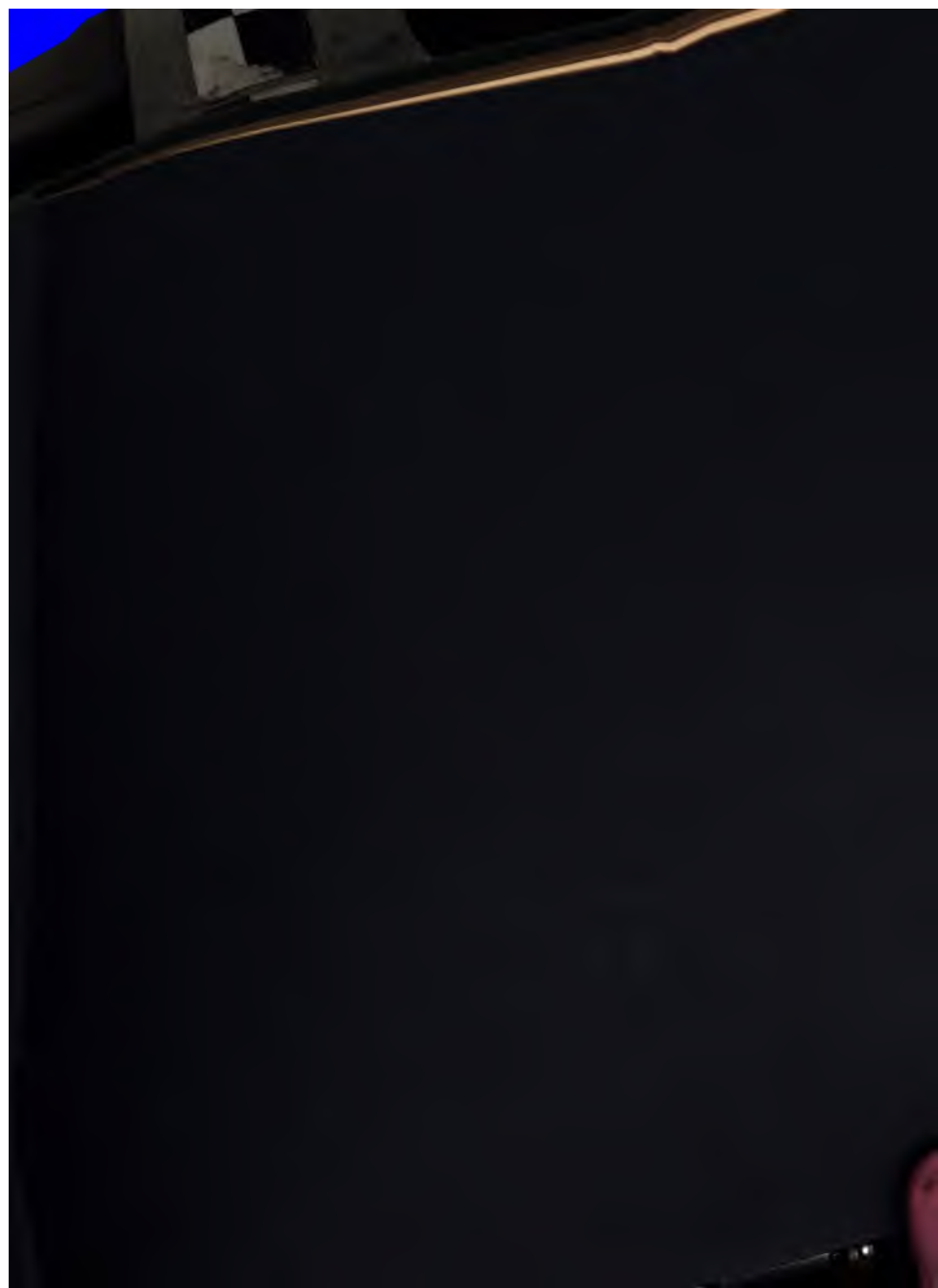
S
E
MARVELS

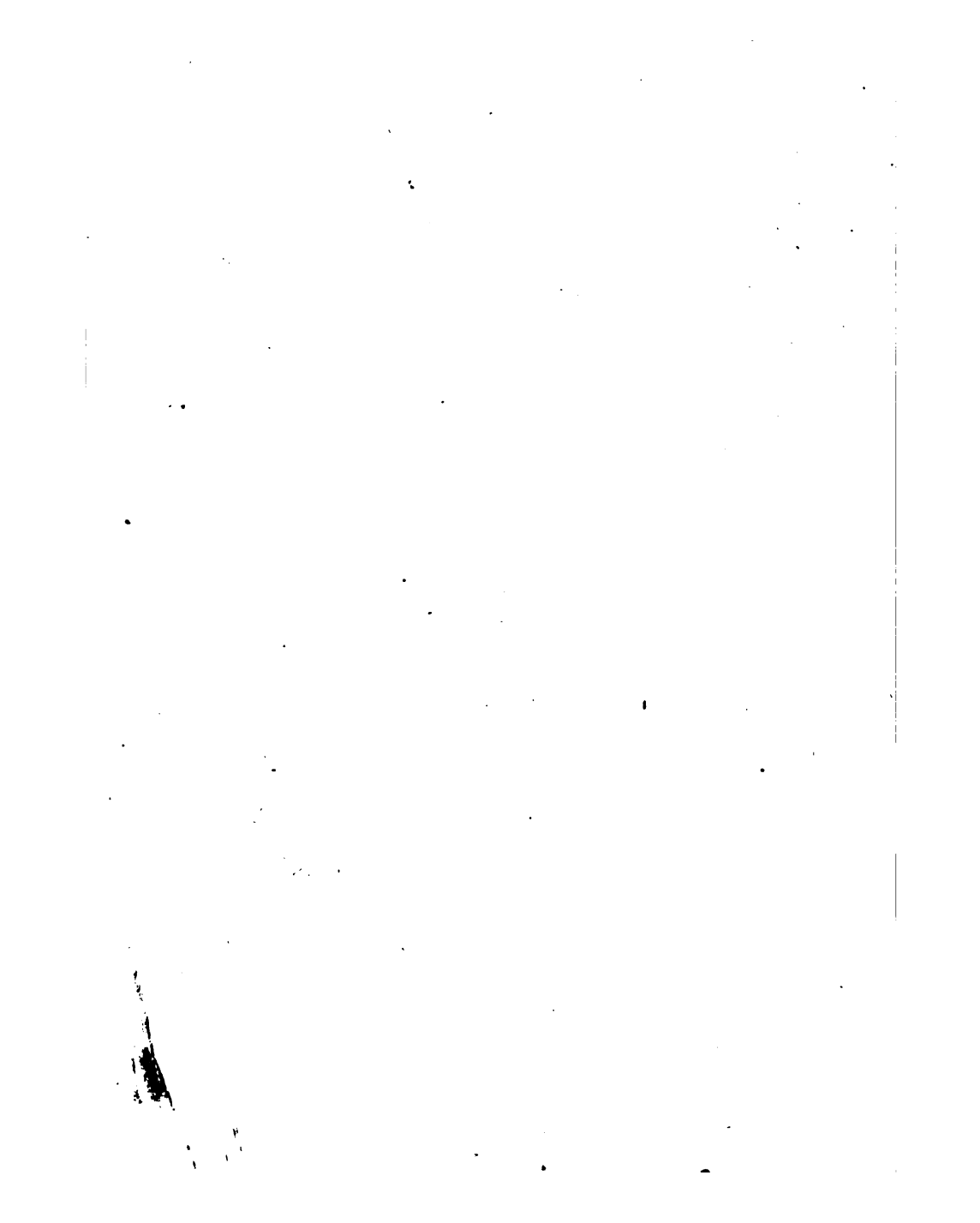
FROM

NATURE



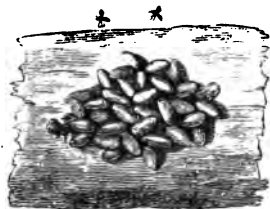




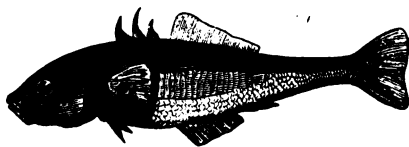


MARVELS FROM NATURE

Ec. Ec.



2



1

MARVELS FROM NATURE;

OR,

A SECOND VISIT TO AUNT BESSIE.

BY

BERTHA E. WRIGHT.



LONDON :
HATCHARDS, PICCADILLY.

MDCCCLXXII.

189. g. 112.

LONDON:
PRINTED BY JOHN STRANGEWAYS,
Castle St. Leicester Sq.

PREFACE.

ENCOURAGED by the kind reception of my first attempt in literature, I venture to bring out a second little work upon Natural History; and in so doing a few words seem to be required by way of a Preface,—although I have but little to add to the remarks which I made in my first volume,—the same plan being now followed out. I have again collected many home facts from our family circle, with others supplied by kind friends; and these are mixed

with information gathered from a variety of books on Natural History, as well as from personal observation and study of this my favourite amusement.

Although I have called my unpretending little volume 'Marvels from Nature,' I do not profess to use the title in a *scientific* sense, being fully aware that many things upon which I have written may be considered very homely, and even common-place ; but I venture to hope that in each chapter will be found much that is wonderful and interesting, concerning the animal creation and the mighty works of God. I have also again endeavoured to draw short moral lessons, suited for the capa-

cities of children, from the wonders which surround us. The illustrations I have sketched from various sources, hoping that they may help to make the little work more attractive to young people.

Thuxton Rectory,

March 29th, 1872.

DESCRIPTION OF THE PLATES.

FRONTISPIECE.

	PAGE
<i>Fig.</i> 1. STICKLEBACK'S NEST	3
2. ICHNEUMON FLIES AND COCOONS	41
3. ICHNEUMON GRUBS ESCAPING	42

PLATE I.

4. PROCESSIONARY CATERPILLARS	67
5. CATERPILLARS' NESTS	68
6. TENTS OF CATERPILLARS	69

PLATE II.

7. CATERPILLARS RESEMBLING STICKS	74
---	----

PLATE III.

8. LEAF-WALKING INSECT	75
9. STICK-WALKING INSECT	75

PLATE IV.

10. ORANGE-COLOURED FLY	89
10 <i>a</i> . A DITTO	89
11. OAK-LEAF GALLS	119
11 <i>a</i> . A SINGLE GALL ON OAK-LEAF	116
12. TAILOR-BIRD'S NEST	160

PLATE V.

1. HUMMING-BIRD MOTH	152
2. HOUSE CRICKET	90
3. BLIND-WORM (OR SLOW-WORM)	142
4. CHAMELEON	176

MARVELS FROM NATURE,

84. 84.

CHAPTER I.

A YEAR having now nearly passed away since my little nephew and niece accompanied me in a 'Home Tour,' and were so much interested in our *Gleanings from Nature*, I readily agreed to the request repeated in every letter to allow them to visit me earlier in the summer, so that they might have a better chance of finding the great object of their desire; viz. a fish's nest.

* * * *

'Oh, Aunt! I thought the time never would come for us to stay with you again: it seems *years* since we were last here!' exclaimed my nephew, as he

B

and Annie jumped out of the train which brought them to our snug little station.

'I am so glad that we have come to see you earlier than we did last year,' he continued, as soon as the first excitement of our meeting was over; 'for we have not forgotten your promise to show us a *fish's nest*, and we are very anxious to see what it is like; it seems so funny that fish can build nests. I am quite ready to start again on our Home Tour: are not you, Annie?'

'Oh, yes!' replied his sister. 'I could scarcely sleep last night, I was thinking so much about it.'

We soon arrived at my home, and the children at once had tea, and then retired to rest, being very tired after their journey and excitement. I found they had not lost any of their former eagerness in the study of natural history, for on the following morning they were quite as anxious to start as they had been the preceding year, and we were quickly on our way down to the river.

It was a lovely morning in the last week of May, and everything around us seemed as bright and

cheerful as were my little visitors. After carefully looking along the bottom of the stream our search was repaid, for we discovered a very perfect specimen of fish-building in the shape of a stickleback's nest.

It seemed to be composed of weeds, sticks, and grass, kept together with sand : it looked something like a small haystack, but flat at the top, where there was a beautifully rounded hole. (*See Frontispiece, fig. 1.*)

‘ I have read many accounts of their nest-building, my dears, and I will tell you how they make these snug little mounds. The male fish brings the different materials in his mouth, and places them most carefully at the bottom of the water : he cements the weeds and grass together with the sand, by drawing his sticky little body backwards and forwards over the whole mass ; then swimming off again, he brings more fragments, which he works about with his nose. He seems to take especial pains in the formation of the round hole in the middle, which is also made with the aid of his nose.

‘ When all is done, he again draws his body over

and over the nest, to make it firm and steady with the gluey cement. It is said that these fish work so hard, that in four or five hours the nests are nearly finished.'

Harry now took a stick and gave the nest a little touch, when, to his surprise, a stickleback attacked it in the greatest fury, and three sharp spines quickly appeared, standing erect upon the fish's back.

'Why, Aunt, I never saw such a handsome stickleback before!' he exclaimed. 'Those I have seen in our river at home are of a dull brown colour, and this one looks scarlet and green!'

'Perhaps you have never observed these little fish in the spring,' I replied. 'The sober-brown coats of the males always change then into these lovely colours that you now see; but more especially when their anger is roused is this the case. The little stickleback, as you see, keeps strictest watch over his nest, to guard it from foes that might either destroy it or eat the eggs; which are usually hatched in about ten days or a fortnight.

'It is said that the father-fish never leaves the

nest during this time, but is always close at hand ; frequently hovering over the entrance to his home in the most extraordinary manner,—beating the water rapidly with his fins, and taking the entire charge of his young till they can provide for themselves.

‘There is one species of stickleback which has ten spines ; *their* nests are shaped like a barrel, and placed amongst the stems and leaves of water-plants, instead of being formed at the bottom of the river. I believe there is also the fifteen-spined stickleback, which is only found in salt water.’

‘Please, Auntie, tell us all you know about sticklebacks,’ said Annie ; ‘we have thought so long about seeing one of their nests, that we should like to hear a great deal more about them.’

‘Certainly, I will tell you all I know,’ I replied : ‘but we will leave our poor little friend here in peace now, for I think we have kept him too long already in an anxious state. It is such a lovely morning, that we will sit down on this old trunk of a tree and rest, while we talk a little more about these interesting creatures.

‘ First I must tell you, that besides their spines they are also provided with other safeguards against their many foes, in the shape of bony plates which completely cover their backs. They are very quarrelsome in their habits, as you can soon find out for yourselves ; for if you place some in a tub, you will see that they will carry on most furious battles, chasing one another round and round with the greatest swiftness, and even biting each other, or inflicting sharp wounds with their spines.

‘ Sometimes these battles have been known to last for many minutes, and most interesting it is to see the change that comes over the conqueror at the end of the fray : the bright colours, in which he dressed himself when his anger was first roused, becoming still more vivid, his back turning to a magnificent green, while along the under part of his body a deep crimson hue appears. He darts backwards and forwards, evidently in the highest spirits, and seems altogether very triumphant at his success : but, alas ! how very different is the appearance of the poor defeated fish ; the gay colours he assumed when

fighting immediately die away, and his coat looks brown and dull again.

‘The bite of these furious little fish is so sharp that it often brings mortification and death upon its antagonist: they have even been seen to tear open their enemy, so that at once he has sunk down and died.

‘Sticklebacks are very ravenous. A gentleman in Norwich kept one in a glass case, and fed it upon young dace: in five hours it actually ate seventy-four, of about an inch and a half long, of the thickness of a horse-hair. They will even eat young leeches; which, indeed, some people say, are their favourite food. Sticklebacks are always brighter in colour when found in clear running water, than when found in ditches, for their hue then is almost black.

‘They sometimes appear in such vast shoals, especially in Lincolnshire, that farmers use them for manure; and it is said that a man employed in catching them has earned as much as four shillings a-day, selling them at a halfpenny a bushel. There is a great deal more about these little fish in Brown’s

Natural History, which I will read to you when we return home, for I think we have talked about them quite long enough now. Shall we go into the park, or would you like to walk on a little further by the river's side ?'

'I like the river best,' replied Harry. 'Will you please tell us about some other kinds of fish as we go along, Aunt ?'

'I think you and Annie will both be interested in a short account of the archers, or *shooting-fish*, which live in the river Ganges and the seas in India. This name is given to them because they shoot drops of water at their prey, which live in the water-plants; and thus these clever fish bring them down and at once devour them. Those who have studied their habits attentively have seen these archers hit their game at the height of three or four feet, and they very seldom miss their mark.

'As I told you last year, the more we study nature the more shall we see of our Creator's wonderful works, and the care which He takes of all His creatures. The patriarch Job, in one of his mar-

vellous speeches, says, "Ask now the beasts, and they shall teach thee; and the fowls of the air, and they shall tell thee: or speak to the earth, and it shall teach thee; and the fishes of the sea shall declare unto thee."* We might think it was only a matter of chance that different fishes are found in different climes—some in salt water and others in fresh water—but even this is all arranged by God, as well as their various forms; some being of the most elegant shapes, and others appearing to us ugly and repulsive: but all is arranged in perfect order, and upon a perfect plan.

'Also with regard to ourselves,—we are apt to fancy that where *we live* is only a matter of chance; but we are told, in the 17th chapter of Acts, that "the bounds of our habitation are ordered by the Lord;" which ought to have the effect of making us happy and contented with whatever lot in life our heavenly Father has ordained for us.

'What would you like to hear about next, my dears?'

* Job, xii. 7, 8.

‘Have you ever seen a flying-fish, Aunt?’ asked Harry. ‘How I should like to see one!’

‘I have never seen any, my dear boy, but I have read about them: they are not really possessed of *wings*, but their upper fins are of such great length that they use them for the purpose of flying. They cannot, however, remain long in the air, the greatest length of time being only thirty-two seconds; and they have never been seen to fly further than about two hundred yards. Whilst thus flying they are often caught by birds of prey, so that in springing from the water to escape from the attacks of fish, they are captured by another kind of foe.

‘Those who have seen these flying-fish describe the sight as being very beautiful: they rush out of the water, spreading their large, transparent wings, or fins, which look bright and silvery; whilst their backs are of a brilliant purple, and their sides blaze like brass in the dazzling light of those tropical regions. But I think you must be tired of fish, or I could tell you about many other kinds.’

‘Oh, no!’ exclaimed both the children, in the

same breath ; ' please go on, Auntie, for a long time yet.'

' Well, I will give you a short account of a few more, and then we will leave the river's side, my dears.

' There is a very destructive class, called the sword-fish, on account of their long beaks, or sword-like noses, which are often fifteen feet long. These swords are sharp and very strong, and they do much injury to ships by boring into the wood: the fish themselves, however, suffer, as their swords invariably break off, and are left fast riven into the ship.

' Then there is the lump-sucker, which is often taken on our coasts: it moves very slowly, and is a very strange-looking fish, of uncouth form, for it is almost as broad as it is long. This fish fastens itself firmly by its head upon different substances: indeed so strong is its hold, that a tub containing several gallons of water was lifted up, by seizing a lump-sucker which had fastened itself to the bottom; and yet these fish are seldom more than a foot and a half in length, which gives you some idea of their great strength.

' The globe, or balloon-fish, has a very remarkable

appearance, for it has the power of swelling itself out like a balloon, by drawing in air ; which indeed is its way of defending itself,—for when thus inflated, the spines stand out sharp and erect, and the fish turns over and floats on the top of the sea : the globe-fish is only found in hot countries.

‘I will just tell you a few words about one other class of fish, called the torpedos, or electric rays, from their power of giving electric shocks. So great is this power, that if you were only to touch them with your finger, your whole arm would immediately feel quite benumbed and useless; for which cause they are often called *cramp*-fishes. There is no doubt that they thus electrify and benumb their prey. But we have wandered far from home, both in our conversation and in our walk ; we will therefore take the little path which leads into the park, and return that way.’

‘I am going to try and find a bird’s nest,’ remarked Harry ; ‘I should not be surprised if there were one in this tree, for it is just the kind of hole which birds choose for building.’

My little nephew at once put his finger in the '*dear* little hole,' as he called it, but he quickly drew it out again in great alarm, for we all distinctly heard a hissing sound, which, as Harry said, was a sure sign that it was the home of a viper.

'I have heard,' observed Annie, 'that when snakes are frightened, they will open their mouths for their young ones to jump into : I wonder whether it is true.'

'I think there can be no doubt about it, my dear, as I have heard the fact from two different gentlemen ; one lived in Norfolk, and the other is still living in Suffolk. The former gentleman was out for a walk, in the village of Brooke, near Norwich, when he heard a rustling in the hedge, and looking in the direction of the sound he saw a snake, which opened its mouth, and he counted seven young ones jump one after the other down the mother's throat, evidently frightened by his approach.

'The other instance is still more striking : I will tell you exactly what my friend told me. He was out shooting at Trimmingham, and was jumping over a ditch, when he observed a snake sunning itself, with

five young ones lying close by: as soon as he appeared, *he* also saw the mother open her mouth and the little ones jump into her throat. The gentleman immediately killed the old snake, cut it open, and took out the five little ones, which hissed at him in true snake fashion.

‘He does not know to what class of snakes it belonged, but it had a yellow ring round its neck, which probably is a sufficient guide for any one who understands this branch of natural history.’

‘How I wish I could see an old snake swallow its young ones!’ exclaimed my little nephew; ‘do not you, Auntie?’

‘Yes, my dear, it must be a very curious and interesting sight to witness; but I would rather be at a respectful distance. Would you like to hear an anecdote of a snake—a huge cobra—that your Uncle William wrote to me about?’

‘Oh, yes! please tell us, dear Auntie,’ cried both the children. ‘Uncle’s tales are always *so* interesting.’

‘The account which I am now going to give you took place about three years ago in Benares. One of

the servants kept a tame bird, which was allowed to hop about where it pleased; a little child was seen one day near the wall, holding on tightly to the bird by one of its wings, whilst a large cobra had hold of the other wing. The snake conquered, and pulled the bird into a hole in the wall: axes and spades were at once fetched, and the old cobra was dug out and killed.

‘You will be surprised to hear that these poor black people actually *worship* snakes, and have the greatest dread of destroying them. All the time they were digging out this snake they prayed to it to forgive them, calling it “Great Prince and Lord,” and saying that it was the Sahib’s (white man’s) orders; and, “You know, High Prince, that you would bite the children, so we *must* kill you. Oh! forgive us the liberty we are taking.”

‘How thankful we ought to be, my dear children, that we live in a Christian land, where none of these dreadful superstitions are practised!

‘Your Uncle often tells us curious tales about his servants, and their humble, fawning manner of speak-

ing. One day his khitmutghar, or waiter, broke two expensive glass tumblers; he scolded the man very much for his carelessness, and told him he must take off part of his wages to pay for them: the poor khitmutghar immediately bowed his head to the ground; put his hands and fingers together in a supplicating manner, and gently replied, "Your Highness is a Prince!" Of course his master could say no more: the man was at once forgiven.'

'Cannot you tell us just a little more about snakes, Aunt?' asked Harry.

'I have been reading a very extraordinary account, sent to me by a friend, about these reptiles being destroyed by wild pigs.'

'Please tell us what you have read,' cried both the children, in a high state of excitement and expectation.

'The statements were given by three different gentlemen, my dears. One writes from India. He says, the first time he witnessed this fact was in Ceylon in 1856: he had been snipe-shooting, and as he was returning home, he saw about a dozen half-wild pigs,

belonging to one of his friends, most perseveringly engaged in trying to overturn with their noses a rotten stem of a palm-tree. So persistently did these pigs act in a body, and so great were their exertions to accomplish their object, that curiosity led him to stop and watch the result. At length their efforts were crowned with success, and a whole family of cobras glided from beneath the rotten tree. To the gentleman's surprise the pigs attacked them, and so taken up were they with their sport, that he approached very near to them unobserved, and had a good view of their movements. He states that he actually saw one of these animals seize a large cobra by the middle of its body, and eat it up, apparently with the greatest relish! Although the reptile bit the sow twice on its nose, she did not seem at all the worse for it, as the gentleman saw her some days afterwards, not the least affected by the bite of the snake.'

'How marvellous!' said Harry. 'I wonder whether it is really true, Aunt?'

'I think it must be, my dear, as there are several

other instances given by different gentlemen ; but as they are all of a very similar nature, I will not tell you any more of these anecdotes.

‘Although snakes are such savage reptiles, yet in some cases they have been known to be very sociable in their dispositions. It is related in Brown’s *Natural History*, that a large cobra and a canary lived together in the same cage for many years : strange to say, they evinced the strongest feelings of attachment for each other ; the canary would frequently fly down to the bottom of the cage, and peck its food close by the snake, which never attempted to interfere with the little bird.

‘Many other instances have been noticed of animals, the most opposite and rapacious in their natures, living in harmony—from their having been brought up together. You have seen little dogs in menageries, living with the fierce and hungry lions in perfect friendship and peace. You see these are some of the marvels from nature, my dears.’

‘Yes, it is very wonderful, certainly,’ replied Harry : ‘but please tell us a little more about India now.’

‘Very well, my dear, I will tell you something about the vegetation in this hot country. Your Uncle says that it is quite astonishing to see how very quickly all the trees, bushes, and flowers grow ; in fact, everything thrives most marvellously. The beautiful bamboo will actually increase in height two or three feet in one night ; the weeds and grass also spread so very rapidly, that it is almost impossible to keep them down.

‘But here we are at home again. I am very glad that I did not keep you out any longer, for it is really becoming quite cold ; and I am afraid that this day, which began so very fair and lovely, will end in rain. Make haste and warm yourselves by the fire. I must not let you be out so long again at this early season of the year, when the weather is often very uncertain and changeable.’

CHAPTER II

THE next morning was indeed a perfect contrast to the preceding one, and the children's faces again bore a strong resemblance to the weather as they stood by the window, looking very gloomy and sad, when I came down to breakfast.

'Oh, Aunt, the rain will spoil *all* our pleasure!' exclaimed Harry, in a very miserable tone of voice; 'and we had counted so much on our garden tour! What *shall* we do all day in-doors?'

'Do not look so vexed, my dears,' I replied; 'we can continue our natural history as well within-doors as abroad, for one day at least. I know a great many wonderful tales about dogs and horses, and even bees, which I fancy will interest you as much in the house as if you were walking out; especially as the tales about bees are some that your Uncle William

told to me : and you said yesterday that you were *never* tired of his tales.'

'Oh, how nice!' they both exclaimed, their eyes sparkling with expectation, and their faces looking once more bright and happy.

'We never need be afraid of having a dull day when we stay with you, dear Auntie,' said Annie; 'you always know so many tales, and all *true* ones, too. We must make haste to finish breakfast, Harry, and then Auntie will fetch her work, and we shall have such a nice long morning's talk, all about the wonders of natural history.'

'Well, what shall I tell you about first? Shall it be a tale of a clever dog, or a clever horse? We will have the bees by-and-by.'

'A clever horse, please,' quickly replied Harry. 'I have read about *dogs* being clever, but I did not know that horses were clever, too.'

'The horse I am going to tell you about belonged to a drover, who lived in a neighbouring parish. One cold day in winter he had been to Norwich, and sold some sheep for his master. He did not start for

home till late, for I am sorry to say that he had been drinking too much at a public-house. It appears that two thieves laid wait for him, as they knew he had some money in his pocket. The man was driving through a very lonely spot, when he was suddenly pulled out of the cart backwards; and he remembered no more, for he received a heavy blow upon his head.

‘His poor wife sat up for him hour after hour. At length she thought she heard him, and went out to look. By the light of a lantern she saw the horse and cart coming down the lane, and gave a sigh of relief; but when the horse stopped at her door, great was her dismay at finding the cart was empty.

‘In terrible alarm she called up her neighbour, and told him, as well as she could through her fright, what had happened. He was a kind-hearted man, and said he would drive back and look for her husband; so he jumped into the cart, gave the horse the *loose* rein, and the faithful animal went the whole way back, without stopping a moment, *straight* up to the place where his master was lying insensible: and

there he stood still, close by his side. The night was so dark that the man could not possibly have found the poor drover, had it not been for this clever and faithful horse, which was thus the means, in God's hands, of saving a life.'

'How grateful the drover must have been,' said Annie, 'to have had his life thus spared!'

'I am sorry to say, my dear, that it had very little effect upon him; for, instead of curing him of his dreadful habit of drinking, he has gone on from bad to worse, and is now one of the most sad characters in the village. His poor wife hoped it would have been a warning to him, as he was ill for months afterwards; but it shows us how very difficult it is to break off from sin long indulged in: nothing but earnest prayer and God's grace can enable any one to do it, for our hearts are by nature "deceitful above all things, and desperately wicked."

'But I will now tell you the other tale, which is very similar. A gentleman who lives in Yarmouth hired a horse and gig from an inn, and as he was driving along, the horse suddenly took fright, and

threw him violently upon the ground. The animal then went straight back to the inn, and the ostler, seeing the *empty* gig, guessed that something must have happened : so he jumped in, gave the horse the loose rein, and this sagacious creature, like the other, took him to the very spot where the gentleman was lying insensible.'

'Thank you, Auntie,' said Harry, as soon as I had finished speaking; 'I shall never forget these two interesting tales about the clever horses: will you please tell us about Uncle and the bees next?'

'Yes, my dear boy. Your Uncle was then living at Ewell, in Surrey, and he frequently observed a large humble-bee—or, as you would call it, a "bumble-bee"—flying in and out of a passage where coats were hung. He had noticed it for about a fortnight, when one day his dog saw the bee coming out of the *pocket* of an Inverness cape, which was hung on a peg; he snapt at it and unfortunately killed it. Your Uncle at once examined the pocket of his cape, and *there* he found the humble-bee's nest,

made of moss and down, and inside it was a great ball of wax, as large as a hen's egg.

'Another time, when he was at Ems in Germany, a humble-bee took a great fancy to his bed, and tried to make a nest there. It was so intensely hot that the windows were always open, and at night the bee was constantly found at the bottom of the bed, rolled up in the counterpane. It was a useless task to shake him out, for after flying off with a dissatisfied kind of grunt, he would come back again, buzzing furiously, and settle upon the curtain, or bump down sleepily upon the pillow: so at last your uncle was obliged to kill the intruder, as he did not find it a very pleasant companion. It is very curious that bees have thus twice taken such a fancy to him, for he always had a dislike to them, and when a child he had the greatest dread of these insects.'

'I think every tale you tell us is more and more interesting,' observed Annie. 'But please go on, Auntie: I am sorry to interrupt you.'

'I am very glad you like my tales, my dear; I will now tell you about a furious battle which I wit-

nessed last year between a wasp and a large fly : they had both taken a fancy to the same apple, but the wasp at once attacked the fly, and a long battle then took place, during which they rolled over and over on the ground, occasionally flying to a little distance, and all the time buzzing most furiously. It ended at last in the death of the poor fly, and upon examining it through a magnifying glass, I found that the infuriated wasp had stung his enemy to death, piercing him through and through with his sharp and venomous sting.'

'If you are not tired, Aunt,' said Harry, 'we should like to hear about the clever dogs next. What a very pleasant morning we are having! I am so glad now that it was wet, for it is very snug and comfortable sitting here by the fire, and listening to your nice tales : I am very anxious to hear about the dogs. I am so sorry that my poor old dog Prince is dead,' continued Harry, looking very doleful : 'you can't think, Aunt, how much I reckoned on bringing him here with me this year, as you kindly promised last summer. I was so fond of Prince that it makes me

feel quite miserable, even now, to think about him. I do not believe I shall ever care for any dog again, as I did for him.'

'It must, indeed, have been a sad trouble for you to bear; you had had him ever since you were a baby, and dogs are so very sensible that they are quite like companions to us. I will now tell you of two very sagacious dogs; one belonged to a gentleman in this parish, and the other to a shepherd in the neighbouring parish.

'The first was a very fine retriever, with a beautiful brown curly coat: he was so clever that he always brought the *news* to his master every morning, and, what is stranger still, the news came from the *dog's mouth*!'

'Oh, Aunt, how absurd!' exclaimed Harry. 'How *did* they teach the dog to talk? and who told him the news?'

'He *picked it up* in the village,' I answered: 'the station-master generally gave him the "latest intelligence." *Now* cannot you guess my meaning?'

The children looked so puzzled that I saw I must

explain the mystery to them. 'This faithful dog,' I said, 'had been taught by his master to fetch his newspaper, the *Daily News*, from the railway station.'

'Why, Aunt, how stupid we were!' said Harry. 'Of course I see what you mean now: he was a newspaper carrier.'

'Yes, my dear, you have guessed right. As soon as the train came in, his master would say, "Now, Don, be off!" and the intelligent animal used to start at once, taking a short cut across the fields. When he arrived at the station, he would look up wistfully into the station-master's face, who, knowing what the dog was come for, would give him the paper, which he then carried straight home in his mouth. Thus you see, though the dog could not be taught to *talk*, yet the news always came from *his mouth*!

'But although Don was so gentle as a carrier, he had very strong and violent feelings: he seemed to understand the deadly nature of a gun; for if one were pointed at him he would bark and growl in the

most savage manner, and try to fly at the offender—in fact, it was neither a safe nor wise experiment to practise with him : but as soon as the gun was raised, the dog was once more as sociable and affectionate as ever. I often think what a good example is set before us by these animals; they never seem to cherish any harsh or angry feelings, for even if beaten, and treated ever so cruelly, they will immediately lick the very hand which has been dealing such hard blows, and seem only too glad to forgive, and be forgiven.

‘ But now I will tell you a marvellous instance of the patience and obedience of a dog. A shepherd, whom I know well, had a dog, which he had been accustomed to leave in charge of his flock when he went home to his dinner. One day he left the dog as usual, with his old coat for a bed, and also as a sign that he intended to return : but after he reached home the shepherd was suddenly taken very ill, and became insensible for two days. As soon as his senses returned he asked for his dog, but his wife could not find him anywhere. At length the shep-

herd remembered that he had left him in the field, and *there* the faithful and obedient creature was found, in the very spot where his master had bid him remain, coiled up on the old coat.

‘I sent these two tales last year, in a shorter form, to your favourite publication, *The Children's Friend*; so perhaps you will see them there, my dears.’

‘What very interesting tales they are!’ observed my little nephew. ‘I don’t know which I like the best. I wish I had a dog like the shepherd’s. But I think, perhaps I would rather have had the retriever, for *gentlemen* do not keep shepherds’ dogs, and they are generally rather ugly and shaggy.’

‘We must not always judge by outward appearances, Harry. I think I have told you a sufficient number of tales for one morning, and you have kept still for a very long time now. I believe the day is clearing up, and I hope after dinner we shall be able to take a nice drive. You can put on your coat and hat, and run down to the coach-house for a little talk with old John. I daresay he will be glad of your company.’

Harry was off in a moment, delighted at the idea; and I knew the old man would be very pleased to see the 'little master.'

Annie amused herself with my cat, which was still very fond of play, although more than a year old. They had a capital game together, Annie running round and round the table with a piece of string and a cork, until at length pussy was evidently quite exhausted, and threw himself down upon the hearth-rug, as if determined not to look at the plaything any more. I now gave my little niece some pictures and a box of paints, and she was soon absorbed in the art of painting, for which she had a very great talent for one so young.

About an hour afterwards Harry came bounding into the room, whistling a merry tune; when, to his great surprise, the cat jumped up, and, running to his side, began to purr very loudly, and to rub round and round his legs.

'What is pussy so pleased about, Aunt? I did not know that cats would ever jump up to welcome people, although dogs often do so!'

‘The reason that pussy welcomed you so warmly was because you were *whistling*: he is a very peculiar cat, and whistling seems to possess quite a charm for him. Even if he is out in the garden, basking in the sunshine, and your Uncle begins to whistle a tune, pussy will spring up, come straight in at the window or door, and jump upon his knee, patting his face, and putting its paw on his mouth, all the while purring very loudly. This curious cat is evidently quite enchanted by the sound, for he will follow a person whistling in every direction. The flageolet also influences him in the same manner, but the *piano* produces no effect.

‘A gamekeeper once told me that rats might be charmed in the same way, and that at the sound of his whistle they would come out of their holes and stand still, as if transfixed by it.

‘I daresay you have heard that snakes are quite enchanted by music, and that in India and other hot countries there is a class of men called snake-charmers, who gain their living by thus enticing snakes from their holes. Huge cobras, at the sound

of their whistle, bagpipes, or flutes, will come out of their hiding-places, and creeping towards the musicians, will twine themselves round their arms and legs in the most loving manner. I will show you a splendid photograph of these snake-charmers when we return home: it was sent to me from India.'

Of course the children were very anxious to see the photograph, and asked many questions about it.

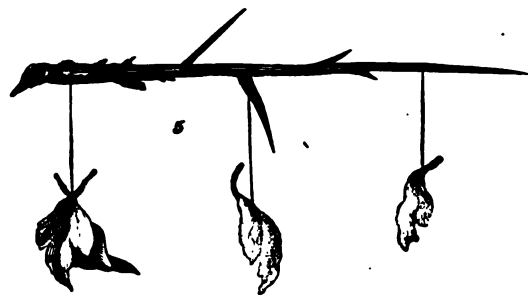
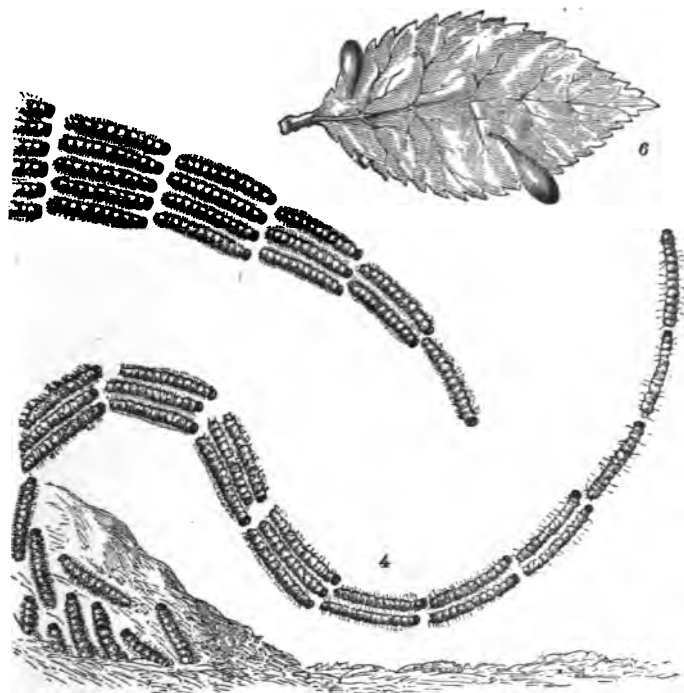
'It seems very horrible,' said Annie, with a shudder. 'I should not like to be surrounded with these dreadful snakes, neither should I wish to see them. Would you, Harry?'

'Yes, I think I should,' he answered; 'it must be such a very curious sight. But now I will try to *charm* pussy again.'

Harry began to whistle a merry tune, and to the delight of both the children pussy at once ran up to him, and rubbed round and round his legs. As soon as he seated himself on the floor the cat jumped upon his lap, and patted his mouth in the most comical manner, then rubbed its face against Harry's face; pussy certainly fully appreciated the whistling. Se-

veral tunes were tried, some were evidently liked better than others; and Harry laughingly declared that the cat preferred the air of 'I would I were a *bird*,' to all the rest put together !

PLATE I.



CHAPTER III.

‘YOU told us about everything to be found on your *door-steps*, and on the *lawn*, last year,’ remarked Harry, as we once more started upon our tour in search of marvels from nature ; ‘so we will make haste out of the garden now, Aunt.’

‘My dear boy,’ I replied, ‘there is much that we can still find to interest us even on the lawn, which we scarcely examined at all last year : *then* we only talked about the dead and withered grass, now we will turn our attention for a few minutes to the study of the living and green blades.

‘You will be surprised when I tell you that there are more than five thousand different species of grass, and that so great is their variety in shape and size that it is said no two blades of grass are *exactly* alike.’

‘I wonder whether people could live upon grass,’ observed Harry, ‘like Nebuchadnezzar! Do you know, Aunt, whether anybody has ever tried the experiment?’

‘I believe it is quite impossible—there is no nourishment in it: for when Napoleon’s army was nearly starved during the dreadful war in Russia, the poor soldiers were so distressed for want of food that they were obliged to eat the grass of the fields; and in every case, where much of it was eaten, racking pains and madness were the sad result. The soldiers did not partake of this wretched food without great care in preparing it, for they boiled it thoroughly first; but the effects were most appalling.

‘When I read this account, I could not help thinking how strongly it showed the reality of the wonderful change that came over King Nebuchadnezzar, as a punishment for his sinful pride: it proves how completely his *whole* nature must have been transformed, to enable him thus to live upon grass like the cattle. How hateful must such a proud spirit be in the eyes of our heavenly Father, when it

caused Him to bring such a sore calamity upon this great King of Babylon : but the result shows that it was sent in love and pity, and to do him good in the end ; for when he was again restored to his throne, we find that he was quite a different character—no longer proud and boastful, but acknowledging the sinfulness of his former conduct, and anxious to do better in the future. We will walk on now, my dears.'

'I am so fond of the month of May,' remarked Annie ; 'all the trees and hedges look so beautiful, with their fresh green leaves, and the pretty hawthorn in blossom ; it makes me feel bright and cheerful : but in autumn I am always inclined to feel dull.'

'I think most people prefer spring, my dear ; but to my mind there is something very charming in the golden hues of the leaves in autumn : the beech-trees and hedges are lovely then, especially when the sun shines upon them, or when they are seen in contrast with the dark green of the firs.'

'But I am sure your beech-hedge looks lovely now,' said Annie, 'with the pale, shining green leaves

just bursting out; they always appear to come out so quickly, all in a day or two: it seems very strange to see how rapidly the leaves are formed.'

'If you were to examine the hedges and trees more closely, my dear, you would find that instead of the leaves forming quickly, it is a very slow process; for the leaf-buds are perfectly shaped in the autumn, and not *one* leaf ever falls off till the bud of a new one is there ready to take its place in the early spring. If you look at the chestnut-trees, and the rose and lilac-bushes, next autumn, you will see the new buds quite plainly, as soon as the old dead leaves fall off.'

'I have found such a beautiful caterpillar!' exclaimed Harry: 'just look at it, Annie; the colours are so bright—red, blue, white, and black; and the body is covered all over with fine hairs; I will take it home and keep it, with a piece of the hedge on which it is feeding.'

'I think you had better not handle it, Harry,' I said; 'for it will very likely cause you much annoyance, and irritate your skin. This handsome

little caterpillar is called the palmer-worm, and it may be found on every hedge all through the summer ; it is most destructive in its habits, and eats prodigiously. It is frequently mentioned in Scripture as a *scourge* sent upon the land, for the wickedness of its inhabitants.

‘I kept some of these palmer-worms last year for a few days, but I was very glad to give them their liberty again, as their skins seem to be of a venomous nature, causing large spots to come out on the flesh, if only just touched ; and these spots irritate greatly, worse than the sting of a gnat. I have learned this from experience ; but some people can handle them without any ill effects : you may try if you like, Harry.’

‘No, thank you, Aunt, I would rather leave the caterpillar alone if it has such a disagreeable nature. But what is this patch of funny, soft little yellow things on the gate-post ?’ (*See Frontispiece, fig. 2.*)

‘They are the cocoons, or chrysalides, of a very curious little insect called the ichneumon-fly, of which there is a very great variety,—I believe, as many

as a hundred different species. The ichneumon-fly chooses a most peculiar spot wherein to lay her eggs; for she drops them one by one in the *backs* of caterpillars and other insects. This strange work is performed much in the same way as a gardener plants potatoes: she first bores a little hole for each egg, with a kind of drill or brad-awl, with which she is furnished, and then carefully drops them in with great skill, for she makes sure of placing her eggs sufficiently deep to prevent their being thrown out when the caterpillar changes its skin. It is said by those who have watched this little fly, that she will thus deposit as many as thirty eggs in one caterpillar. When they are hatched, the tiny grubs at once begin to feed greedily upon the inside of the unfortunate caterpillar, sucking up all its juices; as soon as this is done they are full grown, and come out of their strange home (*see* Frontispiece, *fig.* 3): they then choose the first post or wall which comes handy, where they spin a soft silky web, and turn into little yellow cocoons, like these which you have found.'

'How very wonderful!' observed Annie. 'I should

like to see the ichneumon-fly at her strange work ; would not you, Auntie ?’

‘Yes, my dear. I have several other wonderful and interesting things to tell you yet about these insects : they always select the finest caterpillars wherein to lay their eggs, the favourites being those green ones which you sometimes see in such large numbers upon cabbages. But, strange to say, the caterpillars seem to feel scarcely any ill effects ; for they only give a little wince, as the fly pierces them with her drill, and then go on eating as if nothing had happened ; never turning upon the ichneumon to pinch it, as they do upon one of their own kind, if it should come near them. They do not know what sad results will follow, for caterpillars thus treated never turn into chrysalides, and consequently never become butterflies, but always die a few days after the devourers leave them.

‘Although the caterpillars are thus quite eaten away *internally*, no sign of this strange work can be seen *externally*, for I have sometimes kept caterpillars treated in this way, without being aware of it,

until at last I have found in my box, instead of a chrysalis, a little patch of these ichneumon cocoons, and nothing left of the poor caterpillar but an empty skin.'

'It seems a pity that there should be such destructive insects as the ichneumon-flies,' remarked Harry.

'They perform a very beneficial work, my dear boy; for if caterpillars were not thus destroyed, we should not have a cabbage or cauliflower free from their ravages. Last year they were really quite a scourge in many places: and our poor people had scarcely any of their favourite vegetables left. I saw garden after garden with all the cabbages completely destroyed, the leaves being riddled through and through by these *cankers*, as the country people call them. Not only in Norfolk was this the case, but in our neighbouring county of Suffolk, where I was staying in the autumn, I observed the same destructive work, which makes me think there must have been a scarcity of the ichneumon-fly.

'But I will now tell you a little more that will

interest you both about these remarkable insects. If you were to examine their borer under a microscope, you would see that it has seven or eight saw-like teeth, which are so strong, that the ichneumon can pierce through the nests of the stonemason-wasps, and bees, which, as I have no doubt you remember I told you last year, construct their nests in walls and other hard substances. A great naturalist, who lived many years ago, was a close observer of their habits: he says, he saw an ichneumon-fly alight on the nest of a mason-wasp, in which the mother wasp had stored up green caterpillars; at once the fly pushed her strong drill into the mortar and sand, and turned it round and round from right to left, as a carpenter would use his brad-awl, until she had penetrated to a sufficient depth to reach the young caterpillars; and it was more than a quarter of an hour before this task was accomplished. When the ichneumons begin their strange work, they are not easily alarmed, and will allow an observer to watch them attentively, even with a magnifying glass.'

'Are they large insects?' inquired Harry.

‘No, my dear: this species is a small black fly with yellow legs, and four wings. I believe some species are much larger. But before we leave the ichneumon-flies, I ought to tell you that there is also a little *animal* called the ichneumon, which is found in Asia and Africa. It is a most useful little creature, for it scents out and eats the eggs of the crocodile, which lie hid in the sand on the sea-shore; and thus the terrible crocodiles are prevented from increasing too rapidly. These ichneumons also destroy rats and small reptiles; and I have read that twelve full-grown rats were once killed in a minute and a half by one of these animals. When their anger is roused they growl and bark furiously, but they can easily be tamed, and are kept for pets like cats. The ancient Egyptians held the ichneumon in the highest esteem, looking upon it as sacred: writers in olden times tell us that it was frequently buried with them. But we will walk on again now, whilst we talk a little more about insects. There is another class of flies, as remarkable in their habits as those we have been considering: they belong, indeed, to the same species, and

are called cuckoo-flies, because they lay their eggs in the nests of other insects, adopting a similar plan to that pursued by the cuckoo-bird. But what is still more wonderful is, that not only does this fly lay her eggs in the *nests* of other insects, but also in the *eggs* themselves; most commonly selecting those of the spider or butterfly. You can imagine how very minute the grubs must be, to find sufficient food in such tiny eggs, which are no larger than the head of a pin; and sometimes the cuckoo-fly deposits several in one butterfly's egg. Truly, my dear children, we may well be astonished at such marvels of nature. When you are older, you will find a great deal more to interest you about these flies, in some valuable little books called the *Library of Entertaining Knowledge.*

‘What is that bird which is fluttering in the air, in such a peculiar manner?’ inquired Annie.

‘It is a hawk, preparing to pounce upon his prey, which may perhaps be a poor little mouse,’ I replied.

‘Oh, Auntie! please tell us all about hawking in former times; I have often wished to hear about this ancient amusement.’

‘Certainly I will, Harry. About two hundred years ago, this sport was carried on with great eagerness in England, and a gentleman scarcely ever stirred out without his hawk. The expenses attendant upon hawking are said to have been greater than those of fox-hunting, racing, or any other of our present field-sports. Large sums of money were paid to procure a good breed of these birds; and an old Danish law, still in preservation, inflicted death on any one found guilty of killing them.’

‘How very severe the laws were,’ observed Harry, ‘in “the good old times,” as they are called! It seems so very cruel, and wrong too, to put a person to death for such a small offence.’

‘Yes, my dear; and we ought to be thankful that our laws are now more just and wise. But to go on with our account of hawking. In the time of William the Conqueror it was the favourite amusement of the royal family: the training and flying of hawks was part of the education of young noblemen, and even ladies were as eager about it as gentlemen.

‘The sport was generally followed on horseback, but in woods—where horses could not penetrate—the sportsmen were armed with long poles for leaping over ditches. There is a story told of King Henry the Eighth, who, in attempting to jump over a wide ditch, fell in, through the breaking of his pole, and he was half suffocated with mud.’

‘I am not surprised at his pole breaking,’ remarked Annie; ‘he was such a very stout man that he ought to have had an iron pole to bear his weight. But I have interrupted you, Auntie.’

‘Hawks,’ I continued, ‘rank next to eagles, in activity and boldness. They are difficult birds to tame, and training them was quite a trade: it was a very slow process, and required great skill. They were tamed in the first place by having hoods put over their eyes; but I will read you the full account when we return home, in Bishop Stanley’s book on Birds. When thoroughly tamed the hawks were used for the purposes of catching other birds, and their courage is so great that they will even attack herons. The first thing they do is to disable their prey in the

air, and force it to fall down on the ground, always fixing their talons in the back of their victims. But sometimes the heron will turn over as soon as it sees the hawk above it, and pierce its assailant through and through with its strong beak: then you see the "*biter* is *bitten*," as the old saying runs. In ancient pictures of hawking, the heron is often painted falling back downwards, with a hawk fixed on its beak.

'Your grandpapa once saw a furious battle between a heron and a hawk.'

'Please tell us all about it,' exclaimed Harry.

'Where was grandpapa?'

'Walking in his own garden, my dear. He heard a great screaming and scuffling in the air, and looking up he saw a large heron, and a hawk trying to attack it and drive it off: they kept whirling and circling round and round, mounting higher and higher, until at length the hawk looked no larger than a small ball; he was evidently trying to get above the heron, in order to fix his talons in its back. The fight lasted about a quarter of an hour, the birds becoming more and more furious, and making constant at-

tempts to attack each other, all the while uttering piercing screams: it ended at length in the heron flying away, and leaving the hawk in peace to return to its nest, which was in a plantation close by, where it had built for many years. It was in defence of its house and its young ones that the hawk had proved so pugnacious.

‘On another occasion, when a boy was trying to get the eggs out of the nest, both the hawks attacked him most furiously, and were only frightened off by a gun being fired: the poor boy was terribly alarmed, and screamed for help.’

‘How very brave hawks are, Aunt!’ observed Harry; ‘I cannot imagine how they dare attack a heron, for it is such a very large bird, certainly as much as six times their own size. I have often looked at the one which is stuffed, standing in your hall; its beak is such a length, it must be three or four inches long. I can fancy how easily it could pierce a hawk through. Please tell us about Uncle shooting it.’

‘There is not much to tell you, my dear. He brought it down, terribly wounded, by his first shot;

but he would not have caught it then, had he not had a very large dog with him, which at once attacked the heron. Your Uncle called him off, as he was afraid the bird would, according to its usual custom when attacked, pick out the dog's eyes; but the brave animal had killed it. It is always wise to make sure that herons are really dead before taking them up: a gentleman once put one in the pocket of his shooting-coat, imagining he had killed it, but as he was walking along, all in a moment, he felt a sharp jerk from his pocket, and the next instant the glass of his spectacles was smashed to shivers!

'How very fortunate that he had his spectacles on!' remarked Harry. 'But now, Aunt, will you please tell us a little about eagles, if you are not too tired? I have heard that they have been known to carry off babies in their talons.'

'There is a very old story which proves the truth of this statement, Harry; it is found in an ancient book, and relates to the time of Alfred the Great. This good king was out hunting, when he fancied he heard the cry of an infant amongst the high

branches of a tree, and he commanded one of the huntsmen to climb up and look. At the very top was found an eagle's nest, and inside was a pretty baby, unhurt. The king took the poor little boy home with him, brought him up, and afterwards made him an Earl.

‘The eagle is a very sagacious bird, and adopts a most extraordinary plan, by which it is enabled to stupefy and kill stags, and even oxen.’

‘Why, Aunt, how *can* a bird kill such large animals?’ exclaimed Harry.

‘Have patience and I will tell you, my dear,’ I replied. ‘I have read that the eagle, when in pursuit of prey, first flies to the sea and plunges into the waves: it then returns to land, where it rolls itself over and over on the shore, until its wings are quite covered with sand. It then rises again, and hovers over its victim: when close to it, the eagle shakes itself violently, and thus scatters showers of sand into the eyes of the deer or ox, while it increases the poor animal's fright by blows with its powerful wings. The blinded, frightened creature, becomes more and more

stupefied, and at length runs about quite mad, until it falls down wholly exhausted, or dashes itself to death by tumbling over a cliff. The triumphant eagle then mangles its victim, and carries off piece after piece to its mate and young ones.'

'Are eagles ever found in England now, Auntie?'

inquired Annie.

'Very seldom, my dear: it is, indeed, a rare occurrence.'

'What a curious bird the raven seems to be!' remarked Harry, anxious to begin a fresh subject.

'They are not only curious, but, I am sorry to say, great poachers; for they will fly off with anything bright: silver spoons, watches, and all kinds of jewelry, have been carried off at different times by ravens, and they often arrange these articles in their nests with great skill.

'I know a gentleman who once lost a handsome meerschaum pipe, which, after much searching, was at length found in a raven's nest. A raven has been also known to steal as many as seventeen silver spoons: the owner of them could not imagine who

the thief was, until he happened by chance to see the bird flying away with the seventeenth.

‘There is also another bird which is famed for its pilfering habits, and that is the jackdaw. A rat-catcher in this parish kept one for a pet, and the bird was the pest of all the unfortunate neighbours. It would enter any door or window left open, and fly away with thimbles, reels of cotton, soap, cheese, socks, gloves, or anything that it could find : it became such a nuisance that at length an enraged neighbour caught and killed it.’

‘It must have been very provoking,’ observed Annie. ‘I am not surprised at the neighbours being angry.’

‘No, my dear, I think we should not like to be thus annoyed. But we will return to ravens now. These birds have their good qualities as well as their bad ones ; for they are very sociable and sagacious. They have been known to show strong attachment to animals ; and a very interesting account was given many years ago, in a number of the *Saturday Magazine*, which I am sure will amuse you. We must

return home now, my dears, and I will tell you the tale as we walk along.

‘A gentleman lodged at an inn in Hungerford, and as he was driving into the inn-yard the chaise ran over the leg of his favourite Newfoundland dog, and bruised it terribly. While he was examining the poor animal’s leg, Ralph the inn raven looked on also, and was evidently much interested in all the proceedings; for as soon as the dog was tied up under the manger, with the gentleman’s horse, Ralph visited him, and attended to him with particular marks of kindness, even bringing him bones.

‘Some time afterwards the unfortunate dog broke his leg, and during the whole time that he was kept tied up the raven waited on him more carefully than before, carried him a constant supply of food, and scarcely ever left him alone. One night the ostler, by accident, shut the raven out of the stable, and in the morning he found the door so pecked away, that had it not been opened, the bird would in another hour have made a way of entrance for himself.

‘This raven always seemed much attached to

dogs, but more particularly to those that were maimed or sick. It appears he had been brought up with a dog, and that the strongest affection and sympathy had existed between them. The bird was well known in the neighbourhood on this account, and a great number of people had witnessed the acts of kindness which the raven and dog had performed the one for the other.

‘But here we are close by home again. You may ask John to take you out fishing for an hour, if you like, Harry.’

My little nephew was soon off: when he returned, he said that he had only caught one *very* small fish, which he would have turned into the river again had not John told him that it would not live.

‘It was such a pity,’ observed Harry, ‘to catch this little fish *now*, for *next* year it would have been so much larger, and have given me famous sport.’

I was rather amused at this strange idea, and replied,—

‘Never mind, my dear; I think it is scarcely probable you would have caught the *same* fish again

another year, especially when you consider what a vast number of enemies it has, always ready to snap it up. You must try your skill again another day, when I hope you will be more fortunate, and catch a nice large fish for your breakfast.'

PLATE II.



— — — — —

— — — — —

三、二、一

— — — — —

—

PLATE II.



CHAPTER IV.

‘WHAT a lovely morning it is for our tour!’ exclaimed my little niece. ‘Where shall we go to-day, Auntie?’

‘Suppose we try whether we can find anything else to interest us in the *garden*, my dear,’ I answered with a smile.

‘What *can* be found there, which we have not yet seen?’ replied Annie. ‘I believe there *is* something wonderful that you wish to tell us about: is there not, Auntie?’

‘Yes, my dear; we have not exhausted the marvels from nature, even in our own garden. We will once more leave the study of living creatures, and I will tell you a little about plants and their peculiarities.

‘Neither of you know how many different species of plants have been found in the world.’

Annie guessed a thousand, which caused Harry much amusement ; he said thirty thousand in a very confident manner, as if *he must* be right.

‘You need not laugh at your sister, Harry, for your guess is nearly as far from being right as hers : you will be astonished when I tell you that there are nearly two hundred thousand different species known ; and only think of the innumerable varieties of shape, colour, and size, which are found in this large number ; for almost every species of plant has its own peculiar leaf, form, and dimensions ! We are told by good botanists that each species is formed upon a distinct plan, according to the climate and situation to which it belongs : the leaves of plants growing in sheltered spots, are quite different in structure from those which are found in the full sunshine.

‘The leaf of the cactus, that grows in the hot plains of Mexico, is full of juice : without this provision it could not thrive in such intense heat, and in such a dry soil.

‘Then there is the pitcher-plant, found in the sandy deserts ; and yet, strange to say, the leaves are

formed upon such a marvellous plan, that they hold in their goblet-like forms, refreshing and abundant draughts of water, and thus, through the kind providence of God, they have often revived the poor thirsty traveller, and been the means of saving his life.

‘In the regions of South Africa rain is almost unknown, especially during the hot season: no refreshing streams are found there, and scarcely any wells of water; the soil is all sandy, and reflects the burning rays of the sun with great fury. No fresh winds like ours ever cool the air: it seems impossible that there can be any vegetation in these fiery plains; and yet they are famed on this very account: for our beneficent Creator has provided the plants in this sandy soil with peculiar roots, formed like tubes, and full of a cool refreshing fluid. These moistened roots lie also very deep in the ground, far away from the intense heat of the sun; and the plants have besides thick fleshy leaves: if one be broken open, even in the greatest drought, an abundance of sap will flow out.’

‘How very wonderful!’ observed Harry. ‘I should

like to see the pitcher-plants, and drink some water out of their goblet leaves: but please tell us a little more about these hot countries, Aunt.'

'Very well, my dear; in the deserts of Arabia also, the same kind of plants are found, and their fresh green look presents a marked contrast to the dry soil in which they grow. We are encouraged by our Saviour to study these things, for He says, "Consider the lilies of the field, how they grow." But I really think, my dears, that you have learned enough about plants for the present.'

'Oh, no! please tell us just a little more,' said Harry. 'I have heard that beautiful flowers are found on the tops of mountains, where the cold is very great: is this true, Auntie?'

'Yes, my dear. I will tell you some most interesting particulars, which I have lately read in a book, called *Bible Teachings in Nature*: it is in the same book that I gathered the many instructive facts about plants, which I have just been telling you. It is written by a Scotch clergyman, who has travelled much, and is a great lover of nature. He says

that he was very much struck with the luxuriant vegetation on the Alps, and even among the icy glaciers, where he saw the most lovely flowers of all colours, nourished—on the very tops of these mountains—by the cold drippings of the melting ice, exposed to the scorching rays of the sun by day, and the most intense frosts at night. Yet these plants rank amongst the loveliest of God's works: violets, forget-me-nots, and other little blue flowers, are contrasted in the most striking manner with those of the richest crimson hue; mosses and lichens also, far more beautiful than any we have ever seen, are here found growing on the very borders of ice-glaciers.'

'What are glaciers, Auntie?' inquired my little niece.

'I will show you a picture of one when we return home, Annie; your Uncle bought it for me when he went for a tour through Italy: he crossed this very Mer de Glace—or Sea of Ice—as it is called. Where shall we go now, my dears?'

'We will walk by the river again, please, Aunt,'

answered Harry, 'and look at the stickleback's nest: but we will not disturb the poor little fish to-day.'

We stepped very softly up to the spot, but we could not delude the careful father; for *there he was* in a moment, swimming round and round, and hovering over his young ones as before, with his three sharp spines erected, all ready for battle, if necessary. We amused ourselves for some time watching the little fury, until Harry saw a beautiful brimstone butterfly, which he eagerly chased, and succeeded in knocking it down with his hat. But by the time he had killed it, which he accomplished by a sharp pinch under its body, the poor butterfly had lost most of its soft yellow feathers.

'You should be more gentle, my dear; butterflies require very soft handling. It is most difficult to capture one of any kind without injuring the insect.'

'Which is the largest English butterfly, Auntie?'

inquired Annie.

'The swallow-tail, my dear; but it is a very scarce

insect now, and rarely to be found. Look at that pretty little butterfly fluttering so swiftly backwards and forwards at the end of the meadow !'

'Oh, Aunt ! how lovely it is, with its soft white wings, fringed with red. What is it called ?'

'The orange-tip, Harry.'

'What a good name for it !' he replied. 'But please tell us about some more butterflies.'

'There is a very curious species, called the "comma," from a peculiar mark on each of its under wings, exactly resembling that stop : they are more famed for this peculiarity than for their beauty. I caught several specimens in Wales.

'There is a class of caterpillars found in the South of Europe, which I am sure you will like to hear about : they are called processionary caterpillars, because they march along in regular ranks. The procession is always headed by one leading caterpillar ; he is sometimes followed by two or three in single file, at other times by two abreast, then three, four, five, six, and so on. I will show you a very good picture of these processions when we return

home; it is in a book written some time ago, called *Insect Architecture*. (Pl. I. *fig.* 4.)

‘These caterpillars go on foraging expeditions, thus marshalled, and never miss their way back again, however far they may wander from their nests.

‘A great many caterpillars lay their eggs late in the year, and make comfortable nests of closely woven silken threads, as safeguards for their young broods, which thus pass the winter snug and warm, till the bright days call them into activity.

‘Other caterpillars make *hanging* nests, and suspend them from the branches of trees by a strong thread: they are formed of one or two leaves folded up, and held together with silk of their own spinning. (Pl. I. *fig.* 5.)

‘Then there are the tent-makers, which construct their little dwellings upon the leaves of the elm, the alder, the hawthorn, and other trees or bushes. Those who have watched them at their work tell us that they are most ingenious little sempstresses, cutting out and shaping portions of the leaves as neatly as a tailor shapes his cloth. They join these

pieces together, and fasten them firmly with their own silken threads. It is very curious to see these caterpillars looking out of their tents, with their heads protruded from the opening. (Pl. I. *fig.* 6.)

‘A very remarkable tent-maker is described as constructing its home upon nettles, forming it of the leaves of these plants, and studding it all over with the stinging bristles, which thus make for them as safe and formidable a defence as the spines of the hedgehog afford for him.

‘There is also a tiny class of caterpillars that feed upon moss and lichens; their nests are formed of these materials, and they look so exactly like the moss growing upon the wall, that only a very attentive observer would notice their ingenious handywork.’

‘How I should like to see the little tent-making caterpillars!’ said Annie. ‘Would not you, Harry?’

‘Yes, indeed I should,’ he replied. ‘But please tell us a little more about them, Auntie.’

‘I will give you a short account, my dears, which was related by a gentleman living in Paris. He says that he observed these caterpillars regularly, for

twenty years, on the terrace wall of the Tuileries, and that he spent many a pleasant hour in watching them at their work: they were most untiring in their exertions from morning till night, and formed quite an encampment upon the wall.

‘A very large number of these tiny tents were also discovered on a brick wall of a garden at Blackheath: they were of a cone shape, and most elegant in form and make. There is another class of caterpillars that make their tents exactly like a very tiny muff, and these curious nests are built upon the willow-trees.’

‘Just look at this primrose-leaf, Aunt; it is traced all over with zigzag lines, in the same manner as the rose-leaves which you showed us last year in the verandah.’

‘Yes, Harry, the *leaf-mining* caterpillar often takes a fancy to primrose-leaves, and also to those of the alder; it turns afterwards into a most beautiful little moth, the upper wings gold, silver, and brown, surrounded by a delicate bordering of black, thus presenting a charming effect: but perhaps you are tired of caterpillars, my dears?’

‘Oh, no, Auntie! please tell us a little more about them,’ replied Annie.

‘I am glad to find, my dear, that you are not yet tired of the marvels from nature: I will therefore tell you about the caterpillar of the goat-moth, which is the largest and strongest of our British moths.

‘I have read of an instance where one of these insects was placed under a bell-glass weighing half a pound, which of course was more than ten times the weight of the caterpillar: yet the insect actually raised up this heavy weight quite easily. A further experiment was then tried, by placing a very large and cumbrous book upon the top of the bell-glass—you may imagine that the volume was very heavy, when I tell you that it contained fifteen hundred pages,—but even then this caterpillar was so prodigiously strong, that it managed to make its escape.’

‘Oh, Aunt, how wonderful!’ exclaimed Harry; ‘how could a caterpillar lift such an enormous book?’

‘They have most peculiar heads, my dear,—very strong and tough skinned, and thus adapted for bearing great pressure. I have often been surprised

at the extraordinary manner in which some of my *pet* caterpillars have made their escape from the strong wooden box in which I have kept them, lifting up the lid in spite of the heavy stones which I have placed upon it.

‘There are several other insects noted in the same way: one species is a grub that lives in muddy pools; if subjected to the greatest pressure, even of machinery, it will revive in the most marvellous manner.

‘The caterpillar of the privet-hawk moth has also a very strong hold upon life,—for Bonnet, a great naturalist, actually squeezed one under water till it was perfectly flat and empty, like the finger of a glove, and yet, within an hour, it became plump and lively again, as if nothing had happened.

‘I have read of one instance in which a *human being* possessed the same tough nature: he was a London porter, and his comrades named him “Leather-coat-Jack,” from his being able to suffer carriages to drive over him without receiving any injury.’*

* See *Library of Entertaining Knowledge*.

‘Oh, Auntie, how ridiculous!’ observed Harry: ‘the man must have had nine lives like cats. I wonder whether it is really true.’

‘The tale is given by two well-known naturalists, named Kirby and Spence; they relate a great many interesting facts which you will like to read when you are older. They describe the muscles of many caterpillars as being most wonderful in form and arrangement, if examined under a microscope; innumerable threads crossing and recrossing each other, and making such delicate and intricate patterns, that any lady might be proud to copy them for an exhibition of fine lace-work.’

‘Look, Aunt, here is another of the beautiful and curious buff-tip moths, like the one which I found last year,’ exclaimed my little nephew; ‘how exactly they look like a piece of stick!’

‘Yes, my dear; but it is rather singular finding it so early in the year: I think it must be one that *hybernated* in the autumn. You remember that I explained to you the meaning of hybernation?’

‘Oh, yes!’ quickly replied Annie; ‘you told us that

bats, hedgehogs, and a great many insects also, hibernate, or *put up*, during the winter, remaining quite torpid all through the cold weather, and eating nothing.'

'I am very glad you remember so well all the different things we talked about last summer. Not only do *moths* resemble sticks, but there are also many species of *caterpillars* that look exactly like the twigs on which they feed; amongst them are those of the brimstone butterfly and the swallow-tail moth. (Pl. II. *fig.* 7.)

'There is a class of moths which vary in colour, according to the plants on which they feed; being gray when found feeding on gray, and yellow when feeding on yellow, lichens. This remarkable diversity of colour is doubtless arranged by an all-wise Providence, to conceal the little moth from its many foes: but the caterpillars that thus resemble their particular kind of food are too numerous for us to talk about now, as we must be going home again.'

'Please tell us just one thing more, dear Auntie,' said Annie, in a pleading tone of voice.

'I am always glad to oblige you in anything

reasonable, my dear. Last year I found that my dahlias were terribly eaten by some insects, and I examined them carefully again and again, without discovering the devourers, till at last I saw some very handsome caterpillars of a beautiful and peculiar green colour, so exactly resembling the dahlia stems, that even after I knew the precise spot on which they were feeding I often had great difficulty in again finding them. I suppose they ate mostly in the night, as they never seemed to stir all the day long ; but where I found them in the morning, *there*, in the very same place, would they be in the afternoon.

‘There is also a small caterpillar that feeds upon the privet, which is so exactly like the leaves that it is even possible to hold a leaf in your hand, and yet not to observe the insect ; and the same with the honeysuckle. I have frequently gathered a bunch, and brought it indoors to place it in a vase, without seeing the caterpillar, or *caterpillars*, until afterwards.

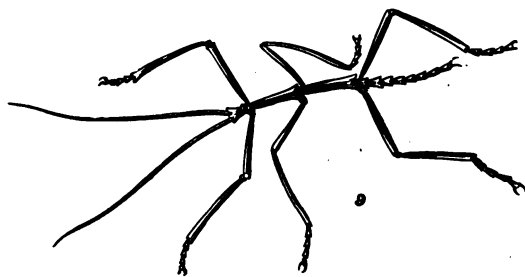
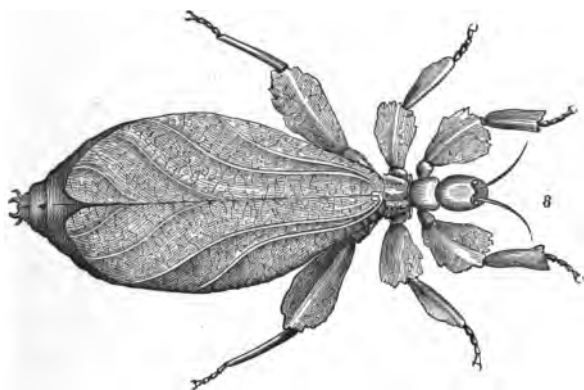
‘There is a remarkable class of insects found in the South of France, and other countries, which are called the walking-leaf and walking-stick insects, from

their close resemblance to those objects. (Pl. III. *figs.* 8 & 9.) They move very slowly, and thus would not be able to escape from their enemies, if nature had not provided for their concealment by this strange similarity to the objects on which they feed.'

'What a number of interesting and wonderful things you have told us to-day, Aunt!' remarked Harry, as we entered the house. 'We have had such a nice long morning; it was very kind of you to stay out so long with us.'

'I am glad you have enjoyed it so much. You see, my dear, that the *book* of nature is like the Book of God, the Bible;—the more we study its many pages, the greater beauties and marvels will be disclosed to our view: both proceed from the same Author, and both are intended for our instruction. Those who go through life without any interest in the animal creation, lose a great charm,—for by giving a little time to this study, the most commonplace walk becomes highly interesting; and we shall never complain that the country is a dull and dreary place.

PLATE III.



CHAPTER V.

'I AM glad we have another wet day,' said Annie on the following morning ; 'we enjoyed our natural history so much within doors the other day, and I hope you have as many more tales to tell us yet, Auntie. Oh, here comes pussy ! I should like to hear some more of his funny ways.'

'I am sorry to say that he has been a very naughty cat this morning, Annie, for I found him on the kitchen-table stealing ; and what do you think he had set his affections upon ?'

The children said 'cream,' 'ham,' 'chicken,' &c. ; but all their guesses were wrong, and they were rather surprised when I told them that it was *treacle* : for I found naughty pussy licking out of the treacle-basin, and appearing wonderfully pleased with this strange food.

‘How absurd!’ said Harry: ‘I did not know that cats had a *sweet tooth*.’

‘Neither did I, my dear, but our pussy certainly has: he is also fond of boiled cabbage, and I have read of cats eating asparagus. In one instance a cat was even known to be so fond of that vegetable, that he would eat it off the beds as quickly as the young shoots appeared; but this strange taste was very annoying, for asparagus is not grown for *cats’ meat*.’

‘You told us, Aunt, that you knew a great many tales about dogs, and you only told us two; will you please try to think of some more to-day?’

‘I see you are very fond of dogs, Harry, and I will do my best to oblige you: I will tell you one that your grandmamma told to me.’

Annie clapped her hands at this announcement, and looked all eagerness and expectation for grandmamma’s tale, and my little nephew was equally anxious to hear it.

‘When grandmamma was a very little girl, my dears, a gardener frequently came to work in the garden, and he always brought with him a nice

brown spaniel, with which she constantly played. He was a very clever and obedient dog, and to please her the gardener would often leave his coat behind him when he went home: of course grandmamma kept on the watch, and after perhaps an hour the dog would come back, looking full of importance; and taking no notice of her, he would go straight to the place where his master's coat was lying, and carry it home in his mouth through several streets, for it was a small town where this happened: and woe to any one who attempted to interfere with him! Now I will tell you about another dog.'

'Thank you, Aunt,' said Harry; 'I hope it is as interesting as grandmamma's tale.'

'I will leave you to judge for yourself, my dear. A friend of mine had a large dog which was very fond of her two little boys. They were playing in the garden one day, and their mamma was watching them from the window, when a man drove up with a strange dog which ran at the children: they screamed violently, and their mamma rushed out, much alarmed; but the faithful Rover had sprung at the strange dog,

and held him down firmly by the throat until the children were safe within doors. Then Rover let him go, and the savage intruder slunk off at once, looking quite crestfallen, with his tail between his legs. You may be quite sure that Rover was a great pet with all the family after this incident: my friend allowed him to come indoors,—a privilege which had never been granted to him before, and which he thoroughly appreciated.'

'I think that is nearly the best of all your nice tales,' remarked Annie: 'they ought to have had the dog's likeness taken with the children; it would have made a very pretty picture: do not you think it would, Auntie?'

'Yes, my dear; but I suppose my friend did not think of this, or I am sure that she would have had their photograph taken. But what do you wish to hear about next?'

'Do you know any more of Uncle's tales? I mean some about India,' remarked Harry. 'You have not told us what kind of birds there are there.'

'I ought not to have left them out, certainly, for

they are very numerous, and some of them very troublesome. But I will leave the birds for the present, and tell you first about the insects. They are much larger than ours, especially the spiders, which are indeed of an enormous size, with legs nearly half a foot long; they have a large number of great eyes, which give them a very striking appearance. The ants are the greatest nuisance, for they swarm everywhere, and eat up everything that comes in their way. They march in long rows, *never changing* their track, and devour as they go along. They come in regular lines, over the houses; in at the windows, and over the beds; then, perhaps, out at the chimney, still keeping in a straight direction: nothing will stop these marauders.'

'How very tiresome it must be!' said Annie: 'I should not like to have them march through our house.'

'No, my dear, they are not pleasant companions. About two years ago your grandpapa found our little English ants very annoying, for they took a fancy to his study, and seemed to have a nest at the back of the mantelpiece. They swarmed in his cup-

board ; and the whole study was invaded by ants of all sorts—some with wings, and the rest tiny little insects, such as you see in the gardens in vast numbers all through the warm weather. Do you remember what I told you last summer about the *winged* ants ?’

‘Yes, Aunt,’ quickly answered Harry ; ‘you said that the males and females had wings, but not the *workers*, and that many people were not aware of this fact, as it is very rarely that the lazy males and females trouble themselves to come above ground, but leave everything they can to the industrious little working ants. I have often noticed them since you told us such nice interesting tales about them : the workers never seem tired, but are always scurrying along backwards and forwards, as if they could not waste a minute : it is very seldom that I can see a sign of the winged ants. I never find the garden dull now, Auntie ; but I often wish you were with me, to tell me about all the different things which I find. Will you please tell us a little more about the Indian ants, now ?’

‘Yes, Harry ; you will be glad to hear that these

insects are sometimes found to be very useful ; for your Uncle was much annoyed one summer by some hornets, that had built their nest in the roof of his house, and he could not get rid of them. A native suggested that ants should be introduced, and at length his advice was followed, for they placed at the entrance of the hornets' nest a large mango-leaf covered with red ants, which so irritated the hornets that they were glad to leave their nest ; and they never came back any more.

'I have seen instances of our little ants worrying insects to death, especially caterpillars, which you may sometimes find completely covered with these tiny tormentors, and apparently trying in vain to shake them off. Last autumn I had a huge caterpillar of the death's-head moth, which I put in a box of mould ready for its winter burial : there were about a dozen little black ants in the mould, and it was marvellous to see how the poor caterpillar writhed about when only a single ant ran over him. I was obliged to take the poor thing out of the box, and place it in some fresh mould.'

‘How very curious!’ remarked Harry: ‘I should have thought such a large caterpillar would scarcely have felt a little ant creeping over him: is he changed into a moth yet? I should like so much to see him.’

‘No, my dear; and perhaps he may never turn into a moth at all, for they often die in the chrysalis state; but sometimes they remain buried under ground for two years, and then emerge as a perfect insect.’

‘I suppose this caterpillar is larger than the one that changes into a privet-hawk moth, which you told us about last year?’ observed Annie.

‘Oh, yes, much larger; but they are very similar in appearance, both having the same beautiful stripes, and being of a pale green colour: but still to a *careful* observer there is a marked difference, for the caterpillar of the death’s-head moth is closely dotted with little black spots, which give it a very striking and handsome look.’

‘Oh, Auntie!’ abruptly exclaimed Annie, running to the window, ‘do look at the poor little lambs out in the wet; how cold and uncomfortable they must

be! and yesterday we saw them so happy and gay, frisking about in the warm sunshine.'

'Yes, my dear, they seemed then to be in very high spirits: and, indeed, most animals have very buoyant natures, also birds, and even reptiles. I think you will be amused when I tell you that many insects appear to be very fond of *dancing*, probably enjoying it as much as ladies and gentlemen in a ball-room; gnats particularly have been observed to hold large assemblies, their incessant motions being evidently expressive of a happy and gladsome feeling: they dance up and down in the air, backwards and forwards, and round and round in circles. No band of music is required, for they *hum* their own tunes; but the most curious feature in the amusements is, that these dancers are all *gentlemen*,—they do not choose partners in their gambols.'

'How ridiculous!' said Harry. 'But how do you know that the dancers are all gentlemen, Auntie?'

'It is easily proved, my dear. When you see gnats dancing about in the air, if you take my butterfly net and catch some, you will find that all the captives

have their horns, or *antennæ*, beautifully fringed; while those of the lady gnats are quite plain. In warm weather the gnats prefer the evening for holding their balls, and they may be seen thus sporting and frolicking about until the deepening shades hide them from view: how long after dark they continue their revels is of course unknown.

‘Butterflies are also famed for their high spirits and frolics; and so are most insects, as I said before. I have often watched the handsome dragon-flies, which appear to have a most exuberant nature; but I am sorry to say they are also very fierce and cruel. I saw one last summer flying up and down in the greatest excitement, buzzing and flapping its large wings with a whirring noise: I went out to ascertain the cause, when off flew Mister Dragon-fly, and upon going up to the spot where I had observed its strange excitement, I found a large white butterfly nearly dead, and only just able to move its wings. The poor insect’s eyes were ready to start out of its head, and its trunk, or proboscis, was greatly protruded, as if from fright.

'We were much annoyed last summer, and the year before, by some strange flies, which came in at the window every evening as soon as the candles were lighted, bouncing themselves down in a very peculiar fashion upon our books and work. If interfered with, they reared up their heads in a defiant manner, and revenged themselves by angrily bumping down upon our hands, or against our faces. I once knocked one off my cheek, but not before the infuriated insect had literally *dug* its sharp sting into my face, causing a hot and very unpleasant sensation. The wound immediately swelled very much, and seemed burning with poisonous heat: it was a most painful feeling, but upon bathing it with spirits of ammonia it soon felt easier. I have often wondered what these insects were, as I cannot find them described in any book. They had bright orange bodies, legs, and antennæ; the sharp sting was concealed in a sheath, and resembled the sting of a wasp: their wings, two in number, were quite transparent, and of a slight brown tinge. (Pl. IV. *fig.* 10.) The bodies of these strange flies were most peculiar, coming almost

to a point in the middle, and when resting they would constantly rear up their legs and the fore-part of their bodies, as if to look around them. But perhaps you would like to hear a little more about insect dances, my dears?’

‘Yes, please, Auntie,’ replied Annie. ‘I suppose it is owing to high spirits also that the crickets chirp so merrily, as I have heard from our old gardener’s wife: she says, when she was young they were found in every chimney-corner.’ (Pl. V. *fig.* 2.)

‘So they were, Annie. I dare say you have heard people say “as merry as a cricket.” In olden days they would come out in large numbers every evening from their hiding-places, and frequently swarm over the capacious hearths of the kitchen fire-places, where large and small, old and young, would jump about like grasshoppers, chirping and singing merrily all the time.

‘But we said we were going to talk a little more about insect dances. I have read that there is a class of gnats with snow-white wings, which will alight, and whirl round and round upon their feet, as

if waltzing ; they will then rise again in the air, and continue their frolicking on the wing. Then there is another little insect, called the whirligig beetle, which you may see on the top of the water at almost any season of the year. They whirl about in the most eccentric fashion, at full speed, apparently in such high spirits that they cannot control their feelings; their bodies shine as if covered with polished armour, and twinkle in the bright sunshine. When alarmed they dive down as quick as lightning. Their sight is wonderfully keen, for they are furnished with two sets of eyes, one pair upon the upper part of the forehead, and the other pair on the under part: thus these little beetles are prepared both for water and for land enemies. They have also beautiful wings, which enable them to leave the water and to fly away to another pool, should their native stream become low in dry weather.

‘The water-flea is equally noted for its sprightliness and animation; if undisturbed it will continue its sports through the live-long day. Then there is the tiny insect called the water-springtail, which is

also very active in its habits, jerking and leaping about by means of the spring in its tail; they may be seen in the summer in swarms, at the edge of small ponds, and even in the water in cart-ruts: so minute are they, that they look like gunpowder sprinkled upon the surface of the water.'

'I have seen them,' quickly answered Harry, 'and often wondered what they were: there were a great number of them last summer in the wheel-ruts in an old lane by our house, and the moment I looked at them, they would all shoot down to the bottom.'

'Yes, my dear, they are very amusing little things; but I think we have talked enough about insects now: would you like to hear some more of Indian natural history, or shall we keep to home subjects?'

'We are not at all tired of India yet,' replied Annie, 'and you promised to tell us about the birds there,—what sort are they, Auntie?'

'A very great variety, my dear, of all shapes, colours, and sizes: many of them are very tame, and your Uncle says they hop about fearlessly, within a yard or two of him: his garden is full of birds of

every description, some with most gorgeous plumage, others very strange-looking. One day he saw a remarkable bird with a head like a hammer; that is, its long straight beak, and the plume at the back, gave it this appearance, and the bird kept knocking its beak up and down into the grass in a very hammer-like fashion.

‘There are some funny little birds in India scarcely larger than dragon-flies; immense vultures which live high up in the air, and smell the carrion afar off; beautiful water-birds; green parrots by the hundred; jackdaws also, and ravens ever screaming. Some of the water-birds are as large as herons, and quite tame.

‘The butterflies are very beautiful, with wings as large as sparrows; the colours being rich and varied. The rats are much larger than ours in England, for they are of the size of guinea-pigs, and very troublesome. But the most peculiar creatures to a stranger when he first arrives in India are the jackals at night; they prowl about in the jungles all day, then as soon as it is dark they come into the streets, roads,

and gardens, in search of food. These jackals are capital scavengers, for in this hot country meat and many other things quickly become putrid, and they perform a really beneficial work in clearing off everything that is thrown out, which would otherwise breed bad fevers. There is always abundance of food for these ravenous creatures, as, when mutton or other meats are wanted for dinner, the cook merely takes the joints which are required, and throws out the rest, knowing that it will be quickly devoured by the jackals. The noise they make is horrible; it begins with a low growl, and then they scream like a child in distress, also snapping and barking furiously: this goes on every night, and perhaps just under your window.'

'I should not like to hear them,' said Annie, shuddering; 'it must be very disagreeable.'

'People very soon get accustomed to it, my dear, and then they do not even notice it. I will tell you a few words about some curious little animals called flying foxes; they hang by their tails to the roofs of houses and other buildings by day, and come out at night.'

‘What a number of curious and interesting things you have told us about India!’ observed Harry; ‘are there any locusts there?’

‘Yes, indeed there are; they frequently make their appearance; and most destructive insects they prove themselves to be, for they come in extraordinary flights, like a great black cloud in the sky, and quite darken the air. They alight upon trees, bushes, and fields, completely covering the ground and everything else; so that men sweep them up with brooms: they are immense insects, being about three inches long, and when flying they look like a flock of small birds. Sometimes they come in lines more than a hundred miles long; and in one instance a vast column was observed *five* hundred miles long!

‘These insects are frequently mentioned in the Bible, and, as you know, were one of the plagues sent upon the hard-hearted and rebellious king of Egypt: we are told in the tenth chapter of Exodus, that these terrible locusts “covered the whole face of the earth, so that the land was darkened, and they ate every herb of the land, and all the fruit of the trees,

and there remained not any green thing throughout the land of Egypt." The prophet Joel calls them "God's great army;" he says, "the land is as the garden of Eden before them, and behind them a desolate wilderness." In other passages he says "they darkened the sun," and that "they keep their ranks like men of war."

'An army of locusts proves more terrible than an army of men, for they leave a fearful pestilence behind them, infecting whatever they touch, to such an extent that it is rendered useless; and afterwards they die in vast numbers, so that the air is poisoned with them.

'The inhabitants of the country try to stop their progress by making a number of pits and trenches all over their fields and gardens; these they fill with water, or sometimes with heath and stubble, which they set on fire: but this plan is almost hopeless, for the trenches are soon filled up and the fires put out by innumerable swarms of locusts, following each other in rapid succession. We are told that it is a fearful scene to witness the clouds of locusts making their appearance

in the distance : the gardeners and husbandmen shout at the tops of their voices to try and prevent these terrible insects from settling on their grounds, and when they alight, the noise they make in browsing may be heard at a great distance.'

'Is it true,' inquired Harry, 'that people eat locusts?'

'Yes, quite true, they are still eaten in Eastern lands, where they are thought to be a great delicacy when nicely cooked : they either boil or roast them, and then eat them with salt. In the cities of Arabia they are brought to market upon strings, or in sacks.'

'How very horrid!' said Annie. 'I should not like to live in countries where there are such dreadful insects. I will never go to India, Auntie!'

'There are many things, my dear Annie, in hot countries, which compensate in a great measure for these and other discomforts which I have been telling you about. The fruits grow to great perfection, and are abundant everywhere, within the reach of the poorest inhabitants. There is also a great variety of fish, which grow to an immense size ; roach often

weighing over twenty pounds, and prawns are caught in the river Ganges nearly as large as lobsters.'

'Oh, how nice!' exclaimed Harry; 'I should have some for breakfast every morning. I am so fond of shrimps and prawns; and these must be beauties.'

'I should not care so much for the prawns,' observed Annie, 'I should like the roach better.'

'I think you show great want of taste,' replied Harry; 'I cannot fancy any one preferring *roach* to prawns. But you are not so old as I am,' he continued, rather pompously, 'and people's tastes change every seven years,—do they not, Auntie?'

'Very frequently it is so, my dear; and not only do their tastes change, but we are told that every seven years our *whole frame* changes also: day and night, sleeping or waking, this strange work is carried on, so that we may be said to have entirely new bodies every seven years.'

The children thought this was very wonderful, and had many more questions to ask upon the subject. I tried to make them understand all that puzzled their

little brains. When I had satisfied their curiosity, Harry asked to hear about the elephants in India ; and although it was getting late, I wished to oblige him, as I always made a point of encouraging their interest in any branch of natural history.

‘I will tell you a few words about the elephants,’ I said, ‘and then you and Annie must run off, and have a good game of play.

‘Your Uncle says we can have no idea of what these animals are like by those we see in menageries ; they are so much larger and stronger, and altogether different in their own country : I always pity them now when I see them, and think how they must long for their native freedom.

‘I remember once when I was walking on the beach at Yarmouth, there was a great crowd of people close by the sea : I joined them to see what had caused so much excitement, and then I saw a huge animal rolling over and over in the water. I found that it was an elephant, and felt much struck by the poor creature’s evident enjoyment of his bath.’

‘I wish I had been with you,’ said Harry.

‘I wish you had, my dear. But now I can tell you no more tales; I believe the day is clearing up, and that we shall be able to take a nice drive in the afternoon, for it is too damp and muddy for walking. I expect we shall have beautiful weather again now. You see, we must not always look for sunshine,—neither would it be good for vegetation: plants, trees, and all the fruits of the earth, require refreshing showers, especially at this season of the year: and so with regard to *ourselves*, we must not always expect everything to be bright and joyous. If no cloud ever came across our path, we should be so entirely satisfied with worldly pleasures and interests, that we should never think of another and a better world, which is to last for ever; and where, as we are told in the Bible, “there are pleasures for evermore;” and again it is written, “Eye hath not seen, nor ear heard, neither hath it entered into the heart of man, the things which God hath prepared for them that love him.”

‘Remember, that you cannot strive to love Him and to walk in His holy ways too soon; for He has

promised a special blessing to those who give their hearts to Him whilst young: the promise being, "Those that seek me *early* shall find me." Give your hearts to God now, my dear children, and you will never repent your choice.'

CHAPTER VI.

WHEN I came into the breakfast-room on the Monday morning, I found my little nephew and niece very busily employed examining the volumes of the *Library of Entertaining Knowledge*, which I had lent to them.

‘Oh, Auntie, look!’ exclaimed Annie, ‘I have found a picture of a rook’s nest built upon a weather-vane, just like the one that you told us about last year.’

‘You said then that rooks were *conceited* birds,’ observed Harry, with an arch look: ‘I suppose this was one of their *vain* ideas.’

Annie and I were much amused with Harry’s little joke; I had often noticed that he was very quick in remarks of this kind, even when only about six years of age.

‘If it was a *vain* idea, Harry, it was not a *vain*

attempt,' I replied, 'for you will see, if you read this account, that a pair of rooks built on this very weather-vane for many years; and a little further on another instance is given, where the Rev. J. Darwin says that he saw two nests made with sticks on the outside and between the spires of Welborn Church, in Lincolnshire, and the parishioners told him that the birds had built there further back than they could remember. But now we must shut up our books for the present.'

An hour afterwards we were once more walking in the direction of the park, for Harry was anxious to try and find some nests,—'only to look at them,' he said; for he did not wish to take the poor little birds' homes away from them. 'I have not forgotten the tale you told us last year, Aunt, about the poor little hedge-sparrows and your cruel cat. May I run on now a little way, for I want to find a nest all by myself?'

'Yes, my dear. We will see who can find one first.'

Harry had not been gone more than five minutes,

when I pointed out to Annie a pair of bright black eyes peering from a hole in the bank.

‘Oh, Auntie, what a dear little bird! how charmed Harry would have been to have found this nest—I wish he had not gone on—its eyes are like two little black beads,’ she continued in a great state of excitement. ‘What bird is it?’

‘A robin, my dear.’

‘How tame it seems, Auntie! I am so glad *we* have discovered a nest first. But here comes Harry back again. Make haste and look at what we have found,’ she said to her brother, as soon as he was within hearing.

Harry was quite out of breath with hurry and excitement, but he answered as quickly as he could, in a very triumphant tone, ‘I am sure it is nothing to mine, you never saw such a curious and pretty nest; it is all covered with white and green mosses, and shaped just like a bottle; do come and look at it directly.’

‘So we will, Harry, for our little robin begins to look frightened: poor little things, they always re-

main faithful to their charge, and will not leave their nests unless compelled to do so.'

We soon arrived at the spot where Harry had found his prize; it was indeed a beautiful nest,—one of the most perfect structures of our English birds,—being that of a long-tailed titmouse, or bottle-tit, as it is commonly called.

'You would be more surprised at this wonderful nest, my dears, if you were to see the tiny little builder,—one of the smallest of our British birds: it is constructed entirely by the female, and lined with a mass of feathers, to make it snug and warm. If you could peep into that little hole, perhaps you might see as many as ten,—or even more—eggs, of a white colour, very slightly speckled with red.'

'What a tiny hole is left for the opening to the nest,' observed Harry: 'it scarcely looks large enough for a good-sized beetle to crawl in.'

'It is indeed very wonderful how these birds go in and out, and how they can find room for themselves, and their numerous family. But we will not stand quite so near their dwelling, as they are very

timid birds; if the nest be merely touched with the finger they will generally forsake it.

‘I may as well just tell you that there is also a fish called the bottle-fish, chiefly remarkable for its very long tail, which is nearly twice the length of its body. But to return to birds.

‘The cape-tit builds her nest exactly like a bottle with a narrow neck: it is made of a kind of cotton, and is very smooth and perfect in shape. On the outside of the nest there is a lodging-place for the male bird; it is said that when they both leave their home at one time, he beats violently with his wings against the sides of the nest, which causes the edges of the opening to close up tightly together, and thus all intruders are kept out.

‘The Indian sparrow also builds her nest like a bottle, and you will be amused when I tell you that these birds hang pretty little lamps on their nests.’

‘How absurd!’ remarked Harry. ‘But where do they get the lamps from, Auntie?’

‘They borrow them from beetles and flies, my dear.’

'Oh, Auntie! what do you mean? please tell us,' said Annie in a beseeching manner.

'The mystery is very soon explained: the Indian sparrow—as well as the Baltimore starling—makes use of glow-worms and fire-flies to light up her home.'

'How extraordinary! But you said the birds used *beetles*, Auntie.'

'Yes, Annie: do not you remember, I told you last year that the *glow-worm* is falsely so called, for it is in reality a *beetle*, and not a worm? The ingenious little birds fasten these lamps upon their nests with moist clay; and the appearance of their illuminated homes is very striking. There is a bird in Africa which makes a nest shaped like a horn.'

'Look, look, Aunt!' abruptly exclaimed Harry. 'I have found another nest in a little bush, quite low down, almost touching the ground: it is made of hay and straw woven together like basket-work; and oh, what pretty little eggs!' he continued, 'streaked with tiny red veins. What nest is it?'

'The yellow-hammer's, my dear; it is indeed very

ingenious and beautiful in form. You are a capital bird's-nester, Harry.

'The yellow-hammer's note is very plaintive and peculiar: he begins low, and gradually raises his tones to a very high pitch,—the first three or four being exactly alike: school-boys say it resembles these words, "A very very little bit of bread, and *no-o che-ese*;" and I have often thought myself that it can be very easily made into this phrase. But I can see another nest; who will find it first of you two, I wonder?'

Annie was the successful finder this time,—for close by, in a beech-bush, she discovered the nest, and anxiously asked me what bird was the builder.

'A chaffinch, or spink, as it is often called,' I replied.

'What a beautiful little nest it is!' she continued; 'all covered with white and grey moss, like the bottle-tit's. But there are no eggs in it yet, Auntie: it seems scarcely finished.'

'You are quite right, Annie: it is not yet finished. The eggs are very pretty, generally four or five in

number, of a reddish-brown hue, spotted or streaked with a darker brown; but sometimes there are scarcely any spots to be seen. The female makes this marvellous little structure almost entirely without the aid of her husband. The chaffinch is frequently called the *wet-bird*, from its peculiar and melancholy note of "weet, weet," which is supposed to be a sign of rain. But its song is very cheerful and sweet, and in France they have a well-known saying, "Gay as a chaffinch," while we say, "Merry as a lark."

'In Germany these birds are much prized as songsters, and people will walk many miles to procure a good breed. It is related that a poor silly fellow, who had no ready money at hand, actually sold his only cow to possess one of these coveted treasures.

'Training them is carried on to a great extent in Germany: bird-catchers make much money by it, and will walk sixteen miles to procure a chaffinch, as they fetch from one to five guineas each. The bird-catcher, when pursuing his trade, takes with him for decoys a live chaffinch and a stuffed one: the living bird he places in a cage, and covers it over

with a handkerchief to hide it from view. He starts very early in the spring mornings, and when arrived in the woods, he listens for the first waking notes of the chaffinches; as soon as the well-known sound greets his ears, he places the cage containing the living bird at the foot of the tree from whence the notes proceed: the stuffed bird he fastens on a stick with bird-lime, and places it just above the cage in full view.

‘The bird-catcher then retires, and as soon as the wood-chaffinch begins his morning song the decoy-bird—which has been trained to sing in the dark—at once answers him from its darkened prison, and thus provokes the songster on the tree; they return note for note, until at length the wood-chaffinch becomes greatly enraged at being thus molested by a stranger, and the notes on both sides grow fiercer and fiercer. At last the wild bird, finding that his enemy does not answer his challenge to come out and fight with him, hops down to search for his rival: in a moment he spies the stuffed bird, sitting out boldly, as if to defy him upon his own premises;

with a sharp cry of anger he pounces upon it, and becomes fixed hard and fast upon the sticky bird-lime, which glues him securely, and the bird-catcher at once captures the baffled little fury.'

'What a clever plan!' remarked Harry. 'How I should like to try it! I wonder whether I could catch any birds in this way?'

'I am afraid not, my dear, for it requires great skill and patience; besides, you have neither a stuffed bird nor a live one for decoys. Sometimes the chaffinch is very sociable in its habits. I will now tell you a striking instance about a pair of these birds, which were very domesticated in their feelings.

'In the year 1793, a pair of chaffinches built their nest in a block or pulley at the head of a ship's mast, while the vessel lay at Greenock; and though she sailed for Glasgow, yet the persevering little birds were not daunted,—for they accompanied the vessel thither, a distance of about twenty-three miles. The block and mast were sometimes lowered for inspection, but it did not appear to disturb the birds, nor cause them to forsake their nest. Our good poet

Cowper was so much struck with the account of these interesting little chaffinches, that he wrote a poem about them.'

'Please read it to us this evening, Auntie,' cried Annie, 'we liked the piece you read to us last year about the hares so much.'

'It will give me much pleasure to read it to you, my dear: but now we will walk on again, and I am sure you will like to hear about a very interesting and quaint custom, which is observed in Norway every Christmas. The people there have evidently very kind feelings towards the little birds, and like to give them a good Christmas dinner, as well as themselves. If you were to spend that season of the year in Norway, the first thing you would observe on Christmas morning would be, that every gateway and barn-door was decorated with a sheaf of corn fixed upon a tall pole, which you would soon see covered with birds of all kinds and sizes feasting luxuriously. Even the poorest of the inhabitants contrive to save a little corn for this purpose, if it be only a single handful.'

'What a pretty sight it must be!' observed Annie: 'how I wish everybody in England would do the same! I will certainly save a good large bunch next harvest, and place it upon our back-gate.'

'I am afraid it would be stolen,' said Harry, 'unless you put up a printed board to say what it is intended for. But the birds cannot eat so many sheaves in one day, Aunt.'

'No, Harry, it would be quite impossible for them to do so; sometimes it is many days before the birds finish the abundant repast thus provided for them, by the kind care and forethought of these unselfish and generous people.'

'Look at your swans, Auntie,' exclaimed Annie; 'how furious they seem to be! one of them is beating the water and hissing as if he were in a great rage.'

'He is indeed furious, my dear,—for they are making a nest upon the little "island," as you call it. I can tell you a tale about a sagacious swan if you like.'

The children were both very eager for me to

begin, declaring that they were never tired of hearing about clever animals and birds.

‘The account is given by Mr. Yarrell in his well-known book called *British Birds*.

‘A pair of swans had a nest containing four or five eggs, and one day the mother-bird was observed to be very busily employed in collecting weeds, grasses, and sticks, evidently in order to make her nest higher. A kind-hearted farming-man threw out some handfuls of brushwood, with which she most industriously raised her nest, and soon placed it about two feet and a half above the water. The very same night there was a tremendous fall of rain, which flooded all the fields and cellars, and did great damage in the village. *Men*, with all their wisdom, had no idea of the coming storm, and were not prepared to meet it, but the *bird* was fully prepared: her eggs were above, and only *just* above, the water!

‘By the aid of the marvellous instinct with which God has endowed the animal creation, she knew that a storm was coming, and that her eggs were in danger of being swept away: thus the instinct of a

bird prevailed over the intellect of man, of which he is too apt to be proud.

‘But now I will tell you of a class of small birds, which are very clever in their habits. They are called nuthatches, and their instinct leads them to fix *nuts* firmly in the crevices of trees or walls, and then to break them open by continued blows of their sharp beaks.’

‘How very clever!’ said Harry. ‘They ought to be called *nutcrackers*, Auntie.’

‘It would certainly be a more suitable name for them, my dear. But I was going to tell you that they are frequently called by the name of the “mason-pie,” from their mason-like habits; for when they find that the hole which they choose wherein to build their nests is too large, these clever little birds make it smaller by plastering it round with moist earth, until it is sufficiently diminished in size to suit their fastidious taste. They have very beautiful, soft plumage; the back being a bright slate colour, intermixed with some rich glossy-black feathers; the breast orange; and a deep black bill.’

'I have seen them,' observed Harry, 'and often wondered what they were. We fed the birds under our window last winter, and one of these dear little mason-pies came amongst them.'

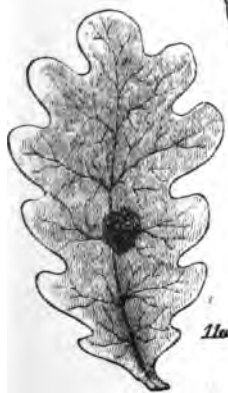
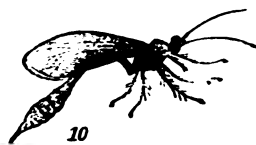
'I am glad you followed my advice, Harry. You will be amused when I tell you that two winters ago, whenever your Uncle left his rooms at Cambridge for any length of time, he always found a robin when he returned, sitting on the back of his arm-chair, *close by the fire*. The little bird evidently appreciated the warmth of a nice, cozy fire; but as soon as the door was opened he would fly back again to the window by which he entered, and make his escape.'

'Just look at this dead leaf,' said Annie; 'it is covered with tiny brown spots: what can they be, Auntie? It looks as if the leaf had the *measles*.'

'It is the work of an insect, my dear—one of the numerous class of gall-flies. I dare say you remember finding some gall-nuts—or oak-apples, as they are usually called—last summer: they also are the work of gall-flies, as I then told you.'

'Oh, yes!' answered Harry. 'And we found such

PLATE IV.



a beautiful robin's pincushion : you told us *that* also was formed by gall-flies.'

'I am very glad you remember so well,' I replied. 'This *dead* oak-leaf is not a good specimen of their work ; if you look out later in the summer, you will see it to much greater perfection upon the fresh, green leaves. The little spots appear quite different when they are first formed ; they then stand out from the leaf like a little ball, and are of a bright green hue, tinged with red, like a very tiny ripe apple, or a currant half ripened. (Pl. IV. *fig.* 11.) If you break open one of these little balls in the summer, and examine it through a microscope, you will find that it is a miniature nest, and contains an egg, or a grub, which in the following spring will become a gall-fly.

'The work of these insects may also be found upon the leaves of many other trees, more especially on those of the poplar and willow.'

'I suppose,' observed Harry, 'that the curious little lumps which I have often seen upon the currant leaves are the work of the gall-flies?'

‘Not exactly, my dear : they are done by a class of aphides, or plant-lice. If you were to examine the backs of these leaves thus bulged out, you would see a crowd of tiny aphis flies feeding upon the juices of the leaves. You would probably find that some of these minute insects had wings, while others, at an *earlier* stage of their existence, had none. These small, green aphis-flies are the favourite food of the grubs of the pretty little lady-birds, which run about in eager haste all over the leaves, in search for their prey ; and the aphides are so slow in their movements that there is no chance of escape for them when once their hiding-place is discovered by these, their greatest enemies.

‘Sometimes the leaves of the elm may be found rolled up in a most elegant form, like a spiral shell ; and when opened there is seen inside a colony of aphis-flies, which have thus enclosed themselves to escape from their numerous devourers.’

We were now close by the lodge, and heard a great squeaking and scuffling : the cause was soon explained, for the gardener’s dog appeared with a

large brown ball in his mouth, which Harry declared to be *alive!*

‘Oh, Auntie, what can it be?’ he eagerly inquired.

Carlo deposited his ball at our feet, and, to the surprise of the children, it turned out to be a hedgehog. The dog had managed to carry it some distance in his mouth, in spite of the sharp prickles; but he seemed very glad to get rid of the strange and uncomfortable burden, making dreadful faces and shaking his curly head, as if he had not much enjoyed the capture; his nose being terribly scratched and pricked by the sharp spines. As soon as the hedgehog was free he uncoiled himself and ran off, apparently unhurt.

The children were much amused at this little adventure, and greatly surprised when the gardener told them that he had seen this same brave dog walk *under the water* in the river after rats. The man also told them that his dog was very intelligent,—for when he and his wife were once driving out, she lost one of her cuffs, and sent Carlo back to search for it; the clever animal knew directly what she meant, and

after a little while, back he came, with the lost cuff in his mouth.'

'How very clever dogs are!' remarked Harry; 'it seems as if they can be taught anything.'

'Yes, my dear. I remember a tale about one which I am sure you will like to hear, but we really must be returning home now, and I will tell you about it as we walk along.'

'A gentleman who lived near Sandringham had a very fine oil-painting in his house, of a dog carrying a lantern in his mouth. He told your grandpapa that the picture was taken from life: for this intelligent and useful creature had been trained to go out with his master when it was dark, and to walk before him with a lighted lantern, to show him the way.'

'How very interesting!' said Annie: 'but I wonder the dog did not burn his mouth.'

'The lantern was of a peculiar make and form, my dear—different from those which are now in use. Another dog, belonging to a gentleman in this neighbourhood, was so intelligent that, during a very severe

winter, he would go every morning—when told—to search all over the fields and marshes, to see if there were any sheep fallen into the numerous ditches which were made to drain the land. At a word from his master he would set off all through the deep snow, and carefully examine each ditch : if an unfortunate sheep had fallen in, the sagacious dog at once began to bark, and would not leave the spot till assistance came.'

'You must have told us about a dozen clever dogs, I am sure,' said Harry.

'Not quite so many as a dozen,' I replied ; 'but I have certainly told you more about dogs than about any other animal.'

We had now reached the river's side again, and Harry said, 'Do wait one minute, please, dear Auntie, for I am going to try and hit a fish with a stone.' After many unsuccessful attempts he gave it up, and was contented to walk on again quietly.

'I often think,' he said at length, 'how curious it is to see the water go round and round in rings when a stone is thrown in: the rings grow larger and larger,

till they reach the opposite bank ; there 'seems to be no end to them.'

'Yes, Harry, it is indeed very wonderful to watch them ; and in the same way as the smallest stone affects the water, so all our actions, even the smallest and most insignificant, exercise an influence around us : and this influence never ceases—not even when we enter the river of death, and reach the opposite shore. Our example for good or for evil may be plainly traced amongst our circles of friends and relations ; and *they* again, and yet again, affect *their* circles ; and so it will go on and on as long as the world lasts. How careful, then, should we be to smooth as much as possible the rough surface of life's waves, and cause nought but gentle ripples to be seen !

'But perhaps you are not old enough to understand my meaning perfectly, my dears ; and here we are close by home again.'

CHAPTER VII.

'OH, Auntie!' exclaimed Annie, as we were starting for our walk on the following morning, 'look at the swallows! They keep flying straight down at pussy, and seem as if they wish to pick his eyes out. And what a curious sharp cry they make every time that they dive down at him!'

'The swallows have a nest close by, my dear, and they wish to drive the cat away.'

'But pussy is not doing any harm,' continued Annie; 'he is only basking in the sunshine on the gravel-walk. How calm he looks! as if the birds were quite beneath his notice.'

'If they were *beneath his notice* he would soon catch them,' said Harry: 'but I expect the birds are much *above* being caught by a cat.'

'You are right, Harry,' I replied; 'pussy would

not look so calm and composed if he had the least chance of catching them. I have watched these birds for several years, and have often been interested in seeing their swiftness and bravery. Last year the nest was disturbed, and they were afterwards more pertinacious than ever in driving off all intruders. I saw them frequently chase the cat all round the garden, and also the gardener's boy, who had interfered with their nest. They seemed to know him a long way off: when he was working in the garden or gathering peas they would fly at his head, uttering piercing cries and screams, till the boy was quite afraid of them,—so infuriated were the little birds.

‘Robins also pursue the same plan when they have nests; often in the summer I hear their peculiar and defiant cries whenever the cat is in the garden: in fact I always know, without looking up, that pussy is prowling about, by the incessant cries of the little robins. I have seen them follow him round and round the garden, perch on every tree or bush close over his head, and literally *screech* at him.’

‘Can you tell me, Auntie,’ inquired Harry, ‘what

the wire-worm really is? I have heard that it turns into a beetle.'

'Yes, my dear—it is the caterpillar of the click-beetle. There are several different classes of these insects, and all are very destructive: one species in the West Indies commits sad ravages amongst the sugar-canes, the grub feeding on the roots and thus killing the plants.'

'Is it a large beetle?' asked Harry.

'Not very large, but it has a long flat body; and it is called the *click* beetle, on account of its method of springing with a sharp sound out of the hand when caught. It is said that the grubs, or wire-worms, remain five years underground before coming out as click-beetles: during these years they feed on the roots of wheat, rye, oats, barley, and grass, and will even attack potato-roots and carrots. Whole crops are sometimes destroyed by these ravenous insects, but I have read of a very simple remedy, which was first introduced by Sir Joseph Banks.

'He recommended that slices of potato stuck upon skewers should be buried in the ground near

newly-sown seeds; the wire-worms will collect upon the pieces of potato in great numbers, and thus they can be easily destroyed.

‘There is a tiny beetle called the grain-weevil, which does great damage in granaries. As you are learning Latin, Harry, perhaps you will like to hear that their destructive habits were well known in Virgil’s time, and are thus described by him:—

“ The high stacks of corn
Are wasted by the weevil.”

It has been calculated that a single pair of these beetles may produce in one season six thousand descendants.

‘Then there is the meal-beetle, which continues in the caterpillar state for two years, and does much mischief amongst flour, cakes, and bread. Sometimes peas are terribly spoiled by a species of this class, and rendered quite useless: on shipboard especially is this inconvenience experienced, as if once these grubs make their way into the stock of peas it is impossible to get rid of them.’

‘What is the proper name for the daddy long-legs?’ inquired Annie.

‘The crane-fly, my dear. These flies deposit their eggs in the ground, for which purpose the female has a little drill, like the ichneumon-fly : she thrusts this weapon into the earth in pasture-lands, or in freshly-dug ground, and then drops one or more of her eggs in each hole. The crane-fly lays many hundreds of eggs, so you may imagine how very quickly they increase.

‘In some meadows these flies are so plentiful that they rise in great numbers at every step, some flying far away, and others running and skipping along as fast as their awkward legs will carry them : for they are very shy insects. When their eggs are hatched, the young grubs, or maggots, at once begin their mischievous work,—eating the roots of grasses, or anything else which comes in their way ; and of course the herbage thus eaten at the roots soon withers and dies.

‘In the summer of 1828, more than an acre of ground at Blackheath was entirely stripped of verdure ; and upon digging to ascertain the cause,

the meadow was found to be quite undermined by grubs of crane-flies. But the most remarkable feature in the case was, that these insects seemed to have kept entirely to this particular acre of land, for in the adjoining meadows not a trace of their destructive work was visible.

‘Sometimes the wheat-crops are almost entirely spoilt by these ravenous grubs; and in the spring of 1813, hundreds of acres of pasture were also destroyed, looking as dead and brown as if there had been a very severe drought; nothing being left except a few hardy thistles. You may imagine the enormous quantity of grubs there were in these fields, when I tell you that under one square foot of turf, two hundred and ten of these marauders were counted; and what makes it still more striking is the fact, that only the year before it was difficult to find one of them, which fully proves how very rapidly they sometimes increase.

‘But we will walk on now, my dears, and leave pussy and the swallows; for we have been standing still quite long enough.’

'Look, look!' exclaimed Annie, 'what a swarm of bees I can see in the air! I wonder where they are going.'

She had not long to wait in uncertainty, for the bees soon settled down upon a large tree.

'It is very curious,' she continued; 'we saw a swarm last year, and now we have seen another; I did not know that bees swarmed so early in the year, Auntie.'

'The early swarms are generally considered the best, I believe, my dear: but I think I told you so much about bees and their remarkable instincts last summer, that you will not care to hear any more about them now?'

'Oh, yes! please: we shall like it very much indeed,—if we do not tire you, dear Auntie.'

'Not at all, my love. There is one very wonderful particular which I forgot to mention in our former long talk about bees; and that is, that the eye of this insect, though no larger than a tiny pin's head, contains as many as three thousand five hundred *lenses*, or minute eyes! It seems probable that all

these little eyes are given to bees to enable them to command an extensive field of sight.

‘I have heard of a gentleman in London who was very anxious to keep bees, and as he had no garden, he determined to place the hive upon the roof of his house, and to watch what the little insects would do to obtain food, for there were no fields nor wild flowers to be seen for many miles around.’

‘Oh, Aunt,’ said Harry, ‘how could the bees get honey in such a place?’

‘I will tell you, my dear: it puzzled this gentleman at first, for the bees were found to thrive well. In order to ascertain where they went for food, he adopted an ingenious but simple plan,—he sprinkled them all over with red dust, and then, knowing that Highgate Common was about the nearest place for wild flowers, he set off very early in the morning, to see if his little friends travelled as far as this spot. Early as he started, the bees were earlier; for when he reached the spot, *there* were his red-dusted bees, humming and flying about from flower to flower in the most industrious manner.

‘Whether it was their numerous eyes that caused them to spy out this spot, so many miles distant, or from any other instinct, was best known to the bees themselves. In the same way in Egypt, the boatman on the Nile takes his hive of bees out with him early in the morning, and goes up the river where no vegetation is seen, nothing but a sandy waste. He then opens the door of the hive, and away fly the working bees. The boatman smokes and sleeps throughout the day, during the intense heat of the sun, and in the evening back come the bees laden with honey. Thus you see what wonderful powers God has given to them, enabling them to find out where their food can be obtained, and guiding them safely back to their hive at night.’

‘How marvellous!’ remarked Annie. ‘Do not leave off yet, Auntie : please tell us some more about them.’

‘Bees have been much studied from a very early age. Xenophon, who lived more than two thousand years ago, mentions them in his writings. He says that his men received serious injury by eating the

honey of bees which had fed on poisonous plants. But the most patient and ingenious discoveries were made by Huber, the blind naturalist, who died about forty years ago.

‘The wings of bees are truly marvellous, for they have nineteen little hooks upon them, and the same number of eyes, which serve a similar purpose as our hooks and eyes; for when the bee chooses she can use them as fasteners, and thus steady her wings by looping the hooks and eyes into each other.’

‘What a clever plan!’ observed Harry. ‘I wonder how she manages to hook-and-eye her wings; it must take her a long time to fasten up so many joints. The next time there is a high wind I will watch the bees, and see how they do it.’

‘Now I will tell you something that I lately read, which will amuse you very much, I think. Bees are loyal and courteous insects. I told you last year that they display the greatest attachment and obedience towards their queen, but I did not tell you that when they leave her majesty’s presence they observe the same courtly ceremony that is practised by our good

Queen Victoria's subjects ; namely, they walk backwards in leaving her presence !'

'How funny!' said Annie. 'It must be very interesting to see them. I am always so afraid of bees since I was stung by one : it was much more painful than when I was stung by a wasp.'

'The sting of a bee is very painful indeed, Annie, because it often leaves its sharp, poisonous weapon behind it ; but I can tell you a simple and excellent plan for extracting it. Take a key, and press the barrel of it very hard upon the injured spot : this will cause the irritating sting to project, and it can then be easily pulled out with a pair of tweezers.'

'What a capital plan!' remarked my little niece. 'I shall not be so afraid of being stung, now that I know how to get the dreadful sting out.'

'I suppose you are tired of hearing about bees : are you not?' I asked.

'Oh, no!' replied Harry. 'I should like to hear just a little more, Aunt.'

'You are both very patient naturalists, my dears. I will tell you something about the cleanly habits of

bees, as you are not tired of these interesting little insects. They will not allow any unpleasant intruders. Sometimes a black slug gets into their hive, and what do you think the tidy bees do then ?

Harry at once replied, ' I should fancy they would soon sting it to death.'

' No, you have not guessed right this time ; they evidently are aware that if they stung the slug to death, they could not carry such a bulky creature out ; and their instinct also tells them that his corpse would be unpleasant, and that it might be injurious to the health of the hive : so they adopt a very ingenious method, which effectually prevents any bad consequences : they cover the slug all over with wax, and then leave him to his fate.

' If a snail crawls in, they very coolly seal up the end of his shell with wax, seemingly aware that it would be only wasting this precious substance if they were to spread it all over him.'

' You told us last year,' observed Annie, ' that the death's-head moth loves honey, and that sometimes he makes his way into the hive. I remember you

also said that the bees never interfered with him ; although they could, if they liked, sting him to death. I suppose they leave him alone for the same reason that they do the slug, and also because of his size, for I am sure the little bees could never move such a large moth an inch.'

'You are quite right, Annie ; a death's-head moth is too formidable an enemy for the bees to remove from their hive : but it is a rare occurrence for the moth to get in, as the far-sighted and sagacious bees have a remarkable plan for keeping him out. They put up, at the entrance of the hive, a sort of barricade, which forms a safeguard against these robbers ; and in those parts of the country where the death's-head moth is very plentiful, the bees erect a series of barricades, one behind the other, leaving only a very narrow passage, just large enough for one bee to pass at a time.

'But really, my dears, we must not talk any more about bees ; I have told you much more than I had intended ; you both seemed so greatly interested that I did not like to hurry away, but we must walk on

again now; we have scarcely stirred out of the garden at present.'

'It is very kind of you to tell us so much,' replied Harry, 'and all you have said is very interesting: is it not, Annie?'

'Yes, indeed it is, and I am so sorry we have only one more day left for our home tour: I think I have enjoyed it even more than I did last year. It was very kind of you to allow an extra day this time, Auntie.'

'It has given me much pleasure to do so, my dear; especially when I see that your interest has not flagged in the least; but that, on the contrary, it seems to have increased each day.'

'Look, look!' cried Harry; 'what is that animal creeping along so stealthily at the further end of the wood?'

'It is a fox; see how thick and shaggy his fur looks, he has not yet cast off his winter coat.'

'He has been thieving,' said Harry, 'for here is part of a poor old hen, upon which he was evidently feasting when we disturbed him.'

'Where do foxes live?' inquired Annie.

‘ They burrow under ground, like rabbits : in fact, they frequently turn out these little animals and take possession of their snug homes.’

‘ Are they not very cunning ? ’ continued Annie. ‘ I have heard people say, “ Sly as a fox. ” ’

‘ The saying is very true, my dear ; as you will believe when I tell you the following anecdote, related by a clergyman.* A friend of his, when a boy, had the strange fancy to keep a fox as a pet ; and one evening, as the farm-waggon was returning from the harvest-field with a load of corn, it happened to pass by Master Renard’s house, and an ear of wheat fell off the waggon within his reach. The fox was seen to jump out and pounce upon the corn, which he quickly carried into his den. The boy wondered what he was going to do with it, as he knew that corn was not the kind of food which foxes ate. But the mystery was soon unravelled, for the next morning Renard was observed to come out of his house and scatter the grains of corn upon the ground. After

* See *Our Own Fireside*.

this performance he retired into his den again, to wait and watch the result of his cunning stratagem. In a short time up came the hens and chickens, attracted by the bait ; and in a moment the cunning fox sprang out, seized one of the unfortunate birds, and took it back in triumph in his mouth, well pleased, no doubt, at the prospect of a good meal off his captive.'

'What a cunning old fellow!' exclaimed Harry. 'People may well say they are sly.'

'Yes, my dear: but not only is the fox a sly animal, he is also very pugnacious and bold. A farmer who lived in this neighbourhood once kept a fox, and so fierce was its nature that it would attack its owner's bull-dog—an animal belonging to a very strong and savage class of dogs. The fox not merely attacked this furious creature, but he also had the best of the fight.'

'I had no idea that foxes were quarrelsome,' observed Harry: 'I always thought they were very shy.'

'Oh! Auntie,' he exclaimed, suddenly breaking off into a fresh subject, 'what a swarm of gnats there is in the distance! I should not be surprised if

they were holding a large ball, like those you told us about the other day. How I wish I had your butterfly-net, that I might catch some !'

'I can tell you another very good plan of catching them, Harry,—dip your hand in the river, and then sweep it backwards and forwards amongst them : you will be almost sure to find some clinging to your moistened hand.'

Harry plunged his hand into the water at once, and drenched it most effectually ; he then started full chase after the dancing gnats, but to his great disappointment he could not reach any of them, for they were flying too high in the air.

'Perhaps I shall see some more presently,' he said, 'and then I can try my luck again. I have often thought about what you told us last summer, Aunt, and have longed to find some of their floating eggs, like little life-boats : but I have never been fortunate enough to discover any yet, although I have watched the gnats upon our water-tanks over and over again.'

'If you wish to see them making their life-boats,

you must get up very early, Harry, as the gnats always choose the first hours after sunrise for their operations; and their tasks are completed by six o'clock.'

'I should think their favourite tune must be "*So early in the morning.*" I suppose the gnats all *hum* it together,' remarked Harry, ready, as usual, with a little joke.

Annie now uttered a scream of dismay, and turned pale with fright. 'Oh, Auntie,' she exclaimed, 'there is a viper!'

'Stay a minute,' I replied, for she was running away at full speed; 'you need not be in the least alarmed, as it is only a blind-worm, or slow-worm (Pl. V. *fig.* 3), and it is perfectly harmless. Try and conquer your fears and come back again, and then I will tell you a little about these remarkable creatures, which are often mistaken for vipers: they are, in reality, members of the lizard tribe.'

Annie came back very cautiously, her face still wearing a frightened look. Harry was anxious to hear for what they were remarkable.

‘I will tell you, my dear. A very slight blow with a stick will usually cut a slow-worm in halves; but the most peculiar circumstance is, that the severed tail will spring and jump about with the greatest liveliness and agility; and these eccentricities will continue for a long time, while the other half of the reptile seems perfectly uninjured.’

‘How curious!’ said Annie, her fright almost overcome by her feelings of interest: ‘but why is it called the blind-worm?’

‘I cannot tell you, Annie: it is a wrong name, as it has very bright eyes, although they are certainly small, and thus perhaps overlooked by a careless observer, or by any one frightened as you were just now.’

‘I am sure *slow-worm* is quite as wrong a name,’ observed Harry, ‘for it moved away very quickly, although it did not seem to have any legs. How very strange to see the tail broken off and jumping about.’

‘Yes, Harry, it must indeed be a curious sight to witness: those who have seen it tell us that for long

afterwards—when the severed tail appears motionless and lies flat on the ground—that even *then*, if touched with a stick, it will jump up again, and dance as energetically as before.’

‘What do they eat?’ inquired Annie.

‘All sorts of insects, but more especially small slugs.’

‘Oh, how horrid!’ she continued. ‘I cannot bear slugs.’

‘They are not very prepossessing in their appearance certainly, my dear; and yet if you were to examine them closely, whilst they are quietly feeding upon a leaf, you would soon see a pair of very beautiful and striking-looking eyes; shaped like little tubes, or rather like two telescope slides, with a bright eye at the end of each; just like the snail’s which we examined last summer.’

‘Oh, yes, I remember!’ said Annie, ‘we thought that they had been the snail’s horns: the next time I see a slug I will watch it, Auntie.’

‘That is right, my dear,—always try to overcome foolish prejudices: it is much easier to conquer them

than you would imagine, if you once make up your mind to fight against them.'

'Oh, Aunt!' said Harry in a doleful tone of voice, 'you are not going home, are you?'

'Yes, my dear; we must give up our walk now, and to-morrow I promise you a *very* long day for studying "marvels from nature."'

CHAPTER VIII.

'I AM so sorry that this is our last day!' exclaimed Harry, with a very sorrowful look, as we set off on our final trip: 'I have enjoyed our garden tour even more this year than I did last year. Have not you, Annie?'

'Oh, yes!' she replied; 'we have learned about so many different things this time, that I think we must really know about *everything* now.'

'My dear Annie,' I replied, 'there are yet hundreds of insects and animals that we have not even mentioned,—for the study of nature, like the study of Scripture, is inexhaustible; and the more we look into its marvels, the more apparent does this fact become. The wonders of God are indeed great, and past finding out,—our finite understandings cannot comprehend them.'

‘Oh, Aunt! what is that curious little animal running across the park? it has such a long tail, and thick woolly coat.’

‘It is a pole-cat, Harry.’

‘It seemed to come out of a rabbit’s hole,’ said Annie; ‘I wonder what it was doing there.’

‘It has probably turned out the rabbit, to make a home for its young ones,’ I replied.

Harry was at once very eager to see whether there were any little pole-*kittens*, as he called them: he looked into the hole very carefully, but it was so deep that he could not see anything, and, of course, he was much disappointed.

‘The pole-cats are far too wise, my dear, to choose a home for their young where they are likely to be discovered: very probably the hole goes down to a great depth, where they are safe from their many foes.’

‘How many young ones do you think there are?’ inquired Harry.

‘Most likely as many as half a dozen; and if you *could* have seen the pole-kittens, I think you would

not have cared to look at them for any length of time, as these animals are noted for their disagreeable odour.'

'What does the pole-cat live upon?' asked Annie.

'I am sorry to say that it is very destructive in its habits, for it kills the young pheasants and partridges, as well as rabbits; and it will even attack the poultry. Its appetite is, in fact, insatiable, and its courage dauntless. Our gardener's dog once killed a pole-cat in a rabbit-hole, and brought it out in great triumph.'

'Oh, Aunt!' exclaimed Annie, 'who can have been so cruel as to kill this poor hedgehog? I should not be surprised if it were the same one that Carlo caught yesterday. I am very sorry it is dead!'

'So am I, Annie; it is very cruel to kill these harmless creatures, for they have many good qualities,—and as far as I know they do no harm,—although some foolish people imagine that they suck the milk of cows as they lie in the fields. But I think this old-fashioned and ridiculous notion is only held by unlettered and ignorant people now: the hedgehog probably keeps close to the cows in order to catch

the flies, which always settle upon these animals when they are at rest.'

'But what are their *good* qualities, Aunt? You said they had many,' observed Harry.

'I will tell you some of them. In the first place, they destroy an immense number of insects and mice, and they will even kill and eat *snakes*!'

'What brave little animals they must be!' said Harry. 'If hedgehogs destroy snakes, I can now easily believe that wild pigs are able to kill them, as you were telling us in our first day's walk.'

'Yes, Harry, you are right: when we know that these little animals kill snakes and vipers, and eat them, too, we can certainly believe that such savage creatures as wild pigs are able to do the same.

'Professor Buckland gives a very interesting anecdote upon this subject. He says that he put a live snake into a box with a hedgehog, in order to ascertain the truthfulness of this notion. The hedgehog at once attacked and killed the reptile, and then very calmly began to eat it, commencing at the snake's tail, and munching it half way, as if it had been a

radish. The next evening he finished the snake, apparently enjoying his meal most thoroughly.'

'It is very curious,' observed Harry, 'that wild *pigs* and hedge *hogs* both destroy snakes.'

'It is rather singular, Harry; but not only do wild pigs kill reptiles, they also destroy the eggs and young of some classes of birds, especially the wingless and ground-building birds of the islands of the South Seas, which are now almost completely exterminated by the relentless work of the wild pigs. I must also tell you, before we leave the subject of the usefulness of hedgehogs, that some years ago it was found that vipers had increased at a marvellous rate in France, owing to the merciless destruction of the poor hedgehogs. I hope the French people have thus learned by experience that these despised animals are some of their best friends. The venom of snakes and vipers has no more effect upon the hedgehogs than it has upon the wild pigs.

'I have read an amusing instance of three young hedgehogs being kept as pets with two ringdoves; but, alas! they were not a happy family: for the

hungry animals soon devoured the unfortunate pigeons, and then they actually began to feast upon *each other!*'

'I should like to see some young hedgehogs,' remarked Annie; 'they must be such funny little things.'

'Yes, my dear; they are not at all like the full-grown animals, for the baby piggies resemble tiny balls of white hair, with a soft, pinky skin: they have scarcely any spines, and the few which they possess are quite white and smooth—very different from the sharp prickles of the full-grown hedgehog. They are also both deaf and blind for some days after they are born.

'It is said that the fox is very cunning in his method of catching a hedgehog: being afraid to attack them boldly, he makes use of a clever stratagem to accomplish his purpose—he pushes the poor hedgehog into a shallow stream, or pool of water, and when the unfortunate creature pops out his *head* to see where he is, the sly fox catches him by *this*, the only part of his body which is unprotected by spines. It is almost impossible to hurt

these creatures when rolled up in a ball, like the one which Carlo caught. When the spines are thus erected as a protection to the delicate body, you may roll a hedgehog over and over without in the least injuring him. An instance is recorded of one of these animals throwing himself down from a height of about fourteen feet, and when he reached the ground he actually walked away unhurt.

‘But now, my dears, we will resume our walk, and leave this poor dead animal, which has been so inhumanly treated.’

‘It is certainly very wonderful,’ said Harry, ‘that pigs and hedgehogs are not poisoned by the venomous snakes.’

‘It is, indeed,’ I replied: ‘but there are many other things of this sort which are equally wonderful. You probably remember I told you last year that the humming-bird moth (Pl. V. *fig.* 1) feeds upon the nightshade, which is a deadly poison to us: it is also a well-known fact, that although laurel leaves are perfectly poisonous to a cow, yet the goat will eat a bushel of them with great relish.’

‘Did you ever see any carrier-pigeons, Auntie?’ asked Annie.

‘No, my dear ; but I have read many interesting particulars concerning them. They are famed for the rapidity of their flight, and are trained to carry notes and messages to a great distance : it requires much skill to train them properly, and it is often a very slow process.’

‘How is it done?’ inquired Harry.

‘I will tell you to the best of my ability. The trainers carry them to a very short distance at first, and then let them go free : if the birds return home without any hesitation, they try them a longer distance, and gradually go on increasing the length of their journey, until the carrier-pigeons are able to accomplish several hundreds of miles with certainty. These birds have a peculiar faculty of noticing landmarks as they fly, which enables them to remember accurately any route that they have previously traversed : but they cannot find their way in the dark—with a few extraordinary exceptions.

‘Their usual speed is from ninety to a hundred

and twenty miles an hour, and Bishop Stanley mentions an instance in which a carrier-pigeon flew more than one hundred and twenty-five miles an hour.

‘They are particularly adapted for swiftness, from the great length of their wings and the lightness of their bodies. About five hundred years ago, before the telegraph was known, the Turks made great use of carrier-pigeons, of which they kept a vast number for *relays*—that is, to relieve each other; and more than two thousand years ago they were made use of as conveyers of news. High towers were built at a distance of about forty miles from each other, and sentinels were set upon these towers, to secure the despatch as quickly as they came, and to pass them on again by the aid of fresh pigeons.’

‘What curious nests our wild pigeons make!’ remarked Harry. ‘I think they must be the most careless of all birds about building; for their nests seem to have no shape, and are so very large and awkward-looking.’

‘You are quite right, Harry; they certainly can-

not be considered good architects. Sometimes these wild pigeons will build their nests in rabbit-burrows, or in the holes of rocks: more especially is this the case in the Holy Land, where they prefer a snug and secluded hole rather than the top of a tree, exposed to view, as is generally the case in England. The prophet Jeremiah mentions these nests, where he says, the "dove that maketh her nest in the *sides* of the hole's mouth."

'In the Book of Isaiah we read of them "flying as a cloud;" we can scarcely understand this simile now, as the flights of pigeons in England are rarely of any great length; but in former days these birds were very abundant on our coasts. In North America, more particularly they are still very numerous, being often seen in flocks of several miles long. In 1829 an encampment settled down upon a large forest, more than nine miles in length and four in breadth; and so innumerable were they, that in this immense forest there was scarcely a tree, large or small, which was not completely covered with their nests. The noise they made was so great, that it was

almost impossible for people in the neighbourhood of the woods to hear each other speak.'

Harry now asked leave to run ahead, and he had only gone a few yards when we heard a great whirring noise, and saw a beautiful pheasant rise in the air over his head: of course he was at once in a great state of excitement and anxiety, hoping to find the nest. But all our efforts were in vain. The bird did not seem at all alarmed by our presence, for, after flying a few yards, he came down again upon the ground, and coolly watched our proceedings.

'How bold he seems!' said Annie; 'I really believe he would like to fly at us, Auntie.'

'Very probably he would like to do so, my dear, for when they have a nest to guard, they have been known to attack people quite furiously.'

Annie drew back a little at these words, and wished to walk away from the angry-looking bird.

I complied with her request at once, and as we walked on, I told the children that I had read of a young lady being pursued and attacked by a pheasant.

sant, which was perched on a stone heap by the side of the road.

‘Do not look so frightened, Annie,’ I said, ‘we have left the bird a long way behind us now, and the young lady I mean had on a scarlet cloak, which colour is always said to irritate the turkey-cock, and many other creatures.’

‘The bustard sometimes shows great courage in defending its nest: some years ago a man was riding on horseback, when he saw a large bird flying over his head, and after a few seconds it actually alighted in front of his horse, and attacked it in the most violent manner. But the bustard is so great a rarity in England now that we need have no fear of being molested in this way: the last account of one having been captured was in 1829—a gamekeeper secured it in a rabbit-trap.’

‘If you like, my dears, I will now tell you a tale about a buzzard,—a large bird, which, although somewhat similar in *name*, is very different in its habits and appearance from the bustard.’

Harry was very anxious to hear about it, so I

began at once, and both the children listened very attentively to the following anecdote.

‘Your grandpapa one day noticed a very large and peculiar-looking bird, which continually flew round and round his garden, occasionally perching upon one of the trees, as if in search for something. A man who lived close by also saw it, and he watched it narrowly, till at length he observed the large bird give a sudden swoop down into a neighbour’s garden ; the next instant it rose in the air, with a chicken in its claws, which it was carrying off in great triumph, when a shot from the man’s gun brought them both down heavily,—the buzzard still holding the unfortunate chicken firmly in its talons. The bird and its prey were both stuffed, and are now in the possession of a gentleman in Norwich : the chicken presents a very striking appearance, for its feathers are still ruffled from its terrible fright, and I believe the bird-stuffer was unable to smooth them down.’

‘What an interesting tale !’ exclaimed Harry. ‘Cannot you tell us about some other kind of bird before we talk of anything else, Aunt ?’

‘There is a very clever foreign bird called the tailor-bird : for although it has no needle and thread, yet this bird can sew as neatly as any tailor.’

‘Why, Auntie!’ cried Annie, ‘how can a bird sew?’

‘I will tell you. There are several different species, and I will first give you a short account of one which is a native of Hindostan. This tailor-bird selects a bush with large leaves, suitable for building its nest; it then gathers cotton from the plantations, and spins it to a strong thread, by the aid of its very long bill and slender feet: then, by means of the same tools, it sews the leaves neatly together with the threads, and fastens them round and round its nest, until it is quite concealed from view. There are some very pretty lines upon the tailor-bird, which I will repeat to you :—

“ Behold the bird’s nest,

Mark it well, within, without !

No tool had he that wrought ; no knife to cut,

No nail to fix, no bodkin to insert,

No glue to join ; his little beak was all :

And yet how neatly finish'd ! What nice hand,
With every implement and means of art,
Could compass such another ?”

‘What charming lines!’ observed Annie: ‘I should like to learn them very much.’

‘They are certainly well worth the trouble. But now I will tell you of another species of tailor-bird, which gathers two or more leaves, sews them neatly together, and thus forms her nest with the greatest skill. (Pl. IV. *fig.* 12.)

‘Then there is the orchard-starling, found also in foreign lands ; and these birds are so common in some places that there is scarcely an orchard without them. They suspend their nests from the trees, and form them of a species of long, tough, and yet flexible grass, which they sew through and through across their nests, in every form and direction—just like darning a stocking. A gentleman had the curiosity to pull out one of these threads of grass, which he found to be thirteen inches long ; and this thread was actually hooked backwards and forwards thirty-four times, in and out of the nest.’

‘I wish we had tailor-birds in England,’ remarked Harry. ‘How I should like to see one of their nests!’

‘When you go to London you can see some in the British Museum,’ I replied.

‘I should like to show you our aquarium at home, Auntie,’ said Annie; ‘we have such a number of funny things in it.’

‘I hope to be able to come and see it very soon, my dear: it is very nice for you to live by the sea, as it gives you the opportunity of finding many curiosities.’

‘Oh, yes,’ said Harry, ‘I am so glad we thought of having an aquarium: I should like you to see the crabs, for they are the most curious and absurd little creatures. They frequently change their skins, like caterpillars and toads; and it is very amusing to watch them: they always choose a snug little corner—under a stone, perhaps—where they begin the operation by stretching out their legs and claws over their heads, and then off come the old coats in a perfect shape. Mamma sent an account of their funny doings to *Chatterbox*.’

‘It is very strange,’ observed Annie, ‘to see how small the cast-off coat looks: I always wonder how it could ever have fitted the crab; he generally seems as if he was surprised about it himself,—for he often takes it up in his claws, and turns it over and over, as if he were examining it carefully, and then he pushes it away very contemptuously, as if he quite despised it.’

‘It must indeed be very interesting to watch the crabs, my dears; you seem to have observed their habits so carefully, that it is quite a pleasure to hear your accounts of their remarkable doings.’

‘Sometimes,’ continued Harry, ‘the moment a poor wretched crab has lost his hard old coat, another crab, much smaller than himself, will pounce upon him, and bite off one of his legs, as he is too weak to defend himself; and the little crab will then actually eat up the leg of his brother.’

‘What dreadful little cannibals the crabs must be, my dear! *we* certainly treat our friends better in every respect, helping them both off and on with *their* coats. I am really much entertained with all

you have been telling me, as I have never kept an aquarium myself.'

'You see, Auntie, we have imparted knowledge and received knowledge,' said Harry, in a very grave and old-fashioned manner, which amused me much.

'How do the crabs manage without their legs?' I inquired.

'They do not seem to care much about the loss of a leg, Aunt; for a new one very soon grows in its place. Large crabs often bite off the little ones' legs, and sometimes, if they are suddenly alarmed, they will even break off their *own* legs, or their large claws.'

'Of course this is the reason that the crabs which we buy are frequently short of a leg, and that one claw is sometimes larger than the other.'

'Yes: is it not funny, Auntie? But now will *you* go on telling wonderful things, please?'

'Certainly, Harry, though I am not at all tired of hearing about your aquarium: but we will now talk of a very different subject. Perhaps you will be astonished when I tell you, Annie, that the beautiful

crimson colour of your scarf is owing to the help of hundreds of tiny insects.'

'Oh, Auntie!' she replied, 'what do you mean?'

'I will explain it: the deep and lovely shade of which you are so fond is obtained from a small insect called the cochineal, which lives upon a peculiar kind of cactus found in South America: and these insects yield the rich and lovely dye which we call carmine.'

'How curious!' said Annie, examining her scarf with great interest: but her contemplations were soon interrupted by Harry, exclaiming in his usual energetic style, 'I have found such a clever spider on the top of the water in this ditch; do come and look at him, Annie: he seems to be a kind of boatman, for he has certainly made a raft to float upon: what a very large spider it is!'

'Yes, Harry, I have seen them before: they usually live in large ditches like this; and by making a raft of leaves, they can float safely upon it, unobserved by the insects which form their prey.'

Another exclamation from Harry now came. 'Oh, Auntie,' he cried, 'the spider has caught something!'

And the next instant we saw the cunning old fellow mounted again upon his raft, and devouring the booty at his leisure.

Harry then took a stick, and gave the spider a gentle touch : in a moment he disappeared under his raft, which evidently served him for the purpose of concealing himself from danger, as well as for a stratagem to enable him to catch his prey.

We now walked on again, as we found that the spider had no intention of showing himself any more ; which rather disappointed the children, and Harry wished that he had not interfered with the spider's proceedings.

'I should have enjoyed watching him for a long time, Aunt,' he said, looking rather gloomy.

'You will learn by experience to be more patient, Harry, when studying the wonders which you find ; but, to make amends for your disappointment, I will tell you about an ingenious method adopted by the beautiful lace-winged fly for preserving her eggs from the ravages of the lady-bird grubs, which, as I have told you before, are very greedy little creatures.'

The faces of my little charges at once brightened up, at the idea of hearing about another clever insect.

‘This handsome fly is very much like a moth in form ; its wings are beautifully clear, of a pale-green colour, thickly veined with fine, delicate lines, which form an exquisite pattern like lace-work. But I see you are anxious to hear about its ingenious plan for preserving the eggs from voracious enemies. As soon as the lace-winged fly has chosen a twig suitable for her purpose she fixes a tiny drop of glue, supplied by her own body, upon the branch, and then draws out the sticky substance till it becomes the length and thickness which she desires ; and at the end of this fine thread she places an egg.’

‘What a strange proceeding!’ said Harry : ‘but I do not see much use in it. I should think such a fine thread is almost sure to break : the egg would be safer upon the twig itself, I am sure.’

‘The lace-winged fly is more far-sighted than you are, Harry ; for if her eggs were laid upon the twig they would all be eaten by the grubs of the lady-

birds. But these bulky little marauders dare not venture upon the fine thread, at the end of which is the coveted prize. So, you see, the eggs are perfectly safe.'

'How clever!' said Annie. 'All insects appear to have a most wonderful instinct.'

'They have indeed, my dear child. The study of "marvels from nature" ought to fill our minds with reverence and adoration at such a manifestation of the power, wisdom, and love of God. We may well exclaim, in the words of the beautiful Psalm of praise, "The works of the Lord are great; sought out of all them that have pleasure therein."'

'I know the Psalm,' exclaimed Annie; 'I learned it last year: it is the 111th. I know a great many of the Psalms by heart. I like the 147th and the 148th so very much. We read them together, Auntie, last year, the evening before we left your house: may we read them again to-night?'

'Yes, my dear: it will be a very nice and appropriate way of ending our last evening together again. What shall we talk about next?'

‘Is there not anything else wonderful about the lace-winged fly?’ inquired Harry.

‘Yes, indeed there is. She is also very provident and far-seeing in her choice of a suitable spot where food will be ready for her young caterpillars as soon as the eggs are hatched : she therefore selects a bough well covered with aphid-flies, upon which they feed greedily.

‘The fine threads, at the end of which her eggs are placed, are no thicker than a hair of your head ; but yet they have a firm, stiff quality about them, which prevents their being broken or destroyed by rain and wind. For a long time these fine threads, with the egg-dots at the end, were thought to be a very delicate fungus, growing out of the bushes : they present a very remarkable appearance, for sometimes as many as two dozen of these fine threads, each capped with a tiny egg, may be seen on one branch, arranged in orderly rows.’

‘I should like to see them,’ remarked Harry.

‘It is too early in the season, at present,’ I replied. ‘But now we will leave the lace-winged fly,

and I will tell you about a very ingenious plan employed by many moths to prevent their eggs from being destroyed by heavy rains or intense cold. These provident moths enclose their eggs in a safe covering of soft down, plucked from their own bodies; and for this purpose the females are furnished with beautiful downy feathers, which perhaps you may have noticed on the bodies of some of these insects—more especially the gipsy-moth and the brown and gold-tailed moths: the latter are very common, and may be seen in abundance through the summer months.'

'I have seen them,' cried Annie: 'their wings are perfectly white, with soft feathers upon them; and their bodies are tipped with yellow or brown, with tufts at the end like a little brush. But how do the moths pluck off their down, Auntie?'

'They are furnished with little tweezers, something like a pair of doll's sugar-tongs; and with this instrument they pull out the down and completely cover their eggs: going through their work with marvellous rapidity, considering how very sluggish these moths are naturally in their movements.

‘The gipsy-moth chooses the trunk of the oak or the elm as a deposit for her eggs. She first makes a foundation of her own feathery down, and then places an egg inside the snug nest, which is securely fastened to the tree with glue from her body. When this is done she deposits another egg, and yet another, and finally covers all over with more of her beautiful down, till the nest becomes of a conical shape ; the roofing is sloped carefully to keep out the rain, like the roofs of our houses ; and thus protected, the eggs are safe through the coldest winters.

‘Another class of moths roll their fur-covered eggs round and round the branch of a tree, in the same way as you might roll a fur tippet : each end begins with a point, and is rolled at first in a single fold ; but in the centre these folds are placed very thickly, and are closely spun together. The peasantry in France call them bracelets. The cement with which the moth glues these strings of eggs to the branch is so strong that it will not dissolve in water, and thus the heaviest rains have no effect upon it.

‘I must just add a few words about the cochineal

insect, which I mentioned a little while ago. Talking about the ingenious methods adopted by moths for the preservation of their eggs, has reminded me of an interesting account which I have read about the cochineal, and her motherly care. She is, perhaps, the most careful of all mothers, for she actually glues her own body over her eggs and then dies : thus leaving them safely protected from all invaders.'

'How very wonderful!' said Annie, again examining her scarf, as if she expected to find some cochineal insects concealed in its folds.

'There is one more moth which I will tell you a little about, and that is the lackey-moth, which winds her eggs round and round the twigs of hawthorn ; but she does not cover them with fur, for they are very hardy and take no harm from exposure to the most inclement weather : they present, however, a very striking appearance. But now we have talked long enough about the wonderful doings of the moth tribes, and I think perhaps you will like to hear a few particulars concerning some very ingenious ants, which are natives of New South Wales.

‘ These insects are of a bright green colour, and so closely do they resemble the leaves upon which they live, and which form their nests, that if you were walking under the trees, you would probably not observe them, unless you were to knock your head against a bough, and then you would find that your coat was completely covered with ants.

‘ Some gentlemen who went out with Captain Cook in 1770, and explored that country for the first time, gave some very interesting facts about these green ants, which, as I have said, build their nests upon the branches of the trees, and form them of the leaves ; for this purpose they bend them down, and glue them together in the shape of a purse. These gentlemen watched the ants at their work of nest-building, and saw thousands of them uniting all their small strength to hold down the large leaves, whilst multitudes were occupied inside the nest, joining the materials fast together with their own sticky glue. The travellers ventured to disturb the ants, in order to see what the result would be, and in a moment,—as soon as the insects

ran off,—the leaves upon which they had been bestowing all their small united strength, sprang up again to their former position. But the industrious little ants soon returned, and had their revenge upon the intruders, for they immediately threw themselves in a body upon their foes, stinging them severely, and causing the most intense pain ; indeed their stings seemed almost as venomous as those of bees ; the ants, moreover, fastened themselves in their hair, to which they clung so fast, that it was very difficult to get rid of them.'

'There is also in New South Wales a species of black ants, that build their homes *inside* the branches of trees ; and so numerous are these insects, that the smallest piece broken from the boughs discloses them in swarms ; in fact, the trees appear to be literally alive with ants.'

'It has been ascertained by very careful observance of the habits of some ants, that they work as indefatigably by night as they do by day : there is also a species of these insects which are perfectly blind, and yet their dwellings are as intricate and

highly finished as those built by their *seeing* brethren.'

'It is very wonderful!' observed Annie. 'How can they manage to make their nests without being able to see what they are doing?'

'It is a mystery, which they alone can solve, my dear; our English ants make very wonderful nests, as I told you last year; it is said that the common wood-ants, if undisturbed, will sometimes make their nests as large as a small hay-cock; but these nests are usually found beside large trees on the bank of a stream: of course such a situation is particularly suitable for the purposes of nest-making, moistened earth being then always all around them.'

'You say that some ants never seem to sleep,' remarked Harry; 'I remember reading an account of a shark which followed a ship in full sail for weeks together; and it was believed by all on board that this large fish never slept during the whole time.'

'I have heard of similar instances, Harry; and I know from experience that the corn-crake seems to take no rest: for a pair of these birds once built in

the orchard near my window, and caused me much annoyance; night after night these lively birds kept up their continual cry of "Crake, crake;" I believe they never ceased for five minutes together.'

'How very disagreeable!' said Annie; 'perhaps the birds took it in turn to crake.'

'I think they really must have pursued this plan, for at all hours of the night their voice was as loud and shrill as if they had only just begun their unpleasant cry.'

'Please tell us about some more wonders belonging to New South Wales?' asked Harry. 'I should like to hear about the birds or animals that live there; is it a hot country, Auntie?'

'Not very sultry, my dear; I believe it is considered a pleasant climate, the heat in summer never becoming oppressive, nor the cold in the winter extreme. There is a remarkable species of dog in New South Wales called "dingoes," they are so exceedingly fierce and wild, that it is impossible to tame them; some of these animals were once brought over to England, but the result was not

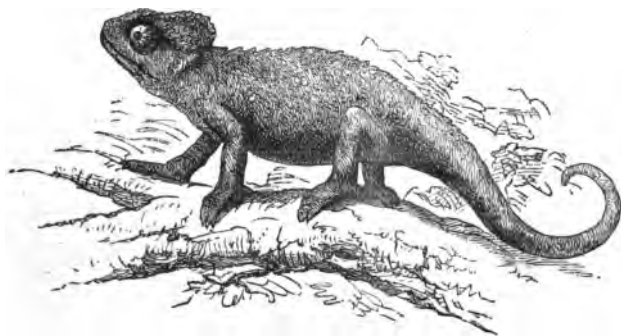
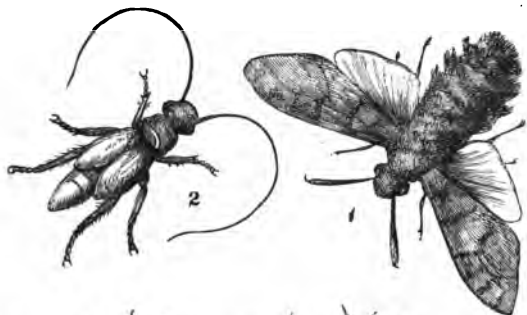
very satisfactory, as they never lost their natural ferocity. The kangaroo is very common in this land; the spiders are famed for their great size; and also the birds, more especially the cassowary or emu, which is often seven or eight feet in height; the beautiful black swans, which you admire so much, Annie, come from Australia and New South Wales.'

'Where does the chameleon come from?' inquired Harry. (Pl. V. *fig. 4*)

'It is a native of Africa and Asia, and also of the Molucca Islands: it is a very peculiar-looking creature, somewhat in the shape of a lizard; the eyes have a remarkable power of moving independently of each other; that is to say, one eye is often looking to the left, while the other eye is looking to the right, —and *vice versa*.

'Chameleons are of a dull, sluggish nature, the only part they move quickly being their tongue, which is very long; this organ is tipped with a gluey substance, and is darted out for the purpose of catching insects, upon which the animal lives; but at one time it was thought that *air* formed its only food.'

PLATE V.





‘What an absurd idea!’ said Harry. ‘But what is the real *colour* of the chameleon? for I have heard that it looks all sorts of shades at different times.’

‘You have heard right, Harry; it is famed on this very account: its usual colour is a greenish gray, but it has the power of assuming almost every variety of shade and hue; sometimes appearing green, then red, blue, or even black: the latter dismal colour appears to have a great influence upon it, for a gentleman kept a chameleon for several weeks, in order to observe it narrowly, and he found that the creature carefully avoided anything black; shrinking from it, as we should from poison: if a black hat or coat were placed before it, the chameleon slunk away, and turned as black as jet.’

‘But how *can* it change its colour?’ asked Annie.

‘I am afraid I cannot explain it clearly to you, my dear; it is owing to the power that it possesses of drawing into its lungs, which are very large, different degrees of air: when inflated or filled out to the utmost, its body becomes almost transparent. I will repeat to you an amusing piece of poetry about

the chameleon, which was in our lesson-books when I was at school : the piece is not only amusing, it is instructive also, showing us how wrong it is to be overbearing and conceited in our opinions.

* * * *

“ Two travellers of such a cast,
As o'er Arabia's wilds they passed,
And on their way, in friendly chat,
Now talked of this, and then of that ;
Discoursed awhile, 'mongst other matter,
Of the chameleon's form and nature.
'A stranger animal,' cries one,
'Sure never lived beneath the sun !
A lizard's body, lean and long,
A fish's head, a serpent's tongue,
Its foot with triple claw disjoined ;
And what a length of tail behind !
How slow its pace ! and then its hue—
Who ever saw so fine a blue ?'
'Hold there !' the other quick replies,
'Tis green,—I saw it with these eyes,
As late with open mouth it lay,
And warmed it in the sunny ray.
Stretched at its ease the beast I viewed,
And saw it eat the air for food.'

'I've seen it, friend, as well as you,
And must again affirm it blue.
At leisure I the beast surveyed,
Extended in the cooling shade.'
'Tis green, 'tis green, I can assure ye.'
'Green!' cries the other in a fury—
'Why, do you think I've lost my eyes?'
'Twere no great loss,' the friend replies,
'For if they always serve you thus,
You'll find them but of little use.'
So high at last the contest rose,
From words they almost came to blows :
When luckily came by a third.
To him the question they referred,
And begged he'd tell 'em, if he knew,
Whether the thing was green or blue.
'Come,' cries the umpire, 'cease your pother,
The creature's neither one nor t'other :
I caught the animal last night,
And viewed it o'er by candle-light.
I marked it well—'twas black as jet!
You stare—but I have got it yet,
And can produce it.' 'Pray, then, do
For I am sure the thing is blue.'
'And I'll engage, that when you've seen
The reptile, you'll pronounce him green.
'Well then, at once to ease the doubt,'

Replies the man, 'I'll turn him out ;
And when before your eyes I've set him,
If you don't find him black, I'll eat him.'
He said ; then full before their sight
Produced the beast, and lo—'twas white !
Both stared—the man looked wondrous wise.
'My children,' the Chameleon cries
(Then first the creature found a tongue),
'You all are right, and all are wrong :
When next you talk of what you view,
Think others see as well as you ;
Nor wonder, if you find that none
Prefers your eyesight to his own.'"

The children both laughed heartily at the well-known piece of poetry, which describes this strange animal so exactly. We had been sitting down to rest upon an old trunk of a tree, whilst talking about the chameleon ; but we now set off upon our walk again, as I was afraid that the children might catch cold.

'Is it true, inquired Harry, 'that the eider-duck plucks out her own feathers to make her nest ?'

'Yes, it is perfectly true ; many people gain their living by climbing the rocks in search of the beautiful

soft, downy feathers of which these nests are composed. The eider-down is highly prized, both for its warmth and for its lightness; the best quality is taken from the ducks' nests, and is called *live-down*, whilst that which is stripped from a dead bird is called *dead-down*, and is of a very inferior sort: therefore the object is to obtain it from the nests of these birds, and throughout the breeding season a constant plunder of the poor eider-ducks' homes is carried on.'

'Where are they found, Aunt?' asked Harry.

'The eider-ducks are very abundant in Iceland, Lapland, Greenland, and Norway; sometimes the bold enterprisers who climb the steep and rugged cliffs to obtain these coveted nests lose their lives: they usually take away the eggs and the down *twice*, leaving the third lot in peace to the patient and persevering ducks, which by this time are almost bare of the nice soft feathers upon their breasts.

'The rabbit also pursues the same plan, for if you were to peep inside the dwellings for their young, you would find that they are lined through-

out with soft, downy fur plucked from their own warm coats.'

'Oh! Auntie,' exclaimed Annie, 'look at that funny cat! It seems to have no *tail*.'

'Pussy, pussy,' she said, in a soft and encouraging manner, to the cat, which was basking in the sunshine close by a haystack. To the delight of my little niece, pussy allowed her to come up to it, and even to stroke its beautiful soft coat.

'What a splendid cat!' continued Annie; 'I am sure it is as large as a dog; but it seems very strange that such a fine creature should have no tail.'

'It is a Manx cat, my dear; they are noted for this peculiarity, and are frequently brought over from the Isle of Man as curiosities. I should like you to see a Persian cat,—they are even larger than this one, and have most beautiful coats, quite thick and shaggy, like our little dog's; they have also a very different appearance from the Manx cats, being famed for their long, curly tails, which sweep the ground.

'Cats, as you know, are very bold in the defence

of their kittens, and will sometimes attack the largest dogs ; I have seen them spring up with the greatest fury and fasten their sharp claws into the dog's back, severely scratching him upon the nose or legs. I was reading an amusing anecdote the other day about a kitten and a bear ; the little creature was frisking and playing on the edge of the bear's pit at Berne, and all in a moment it fell between the bars, into the very paws of the bear. The bystanders held their breath, expecting to see the poor little kitten devoured at once by its ferocious enemy ; but, to their surprise, the bold and dauntless little thing,—by no means alarmed at its terrible foe, —bristled up both coat and tail to such an extent of wrath and courage, that the bear, when just within reach of the coveted morsel, was evidently so surprised and discouraged by the kitten's intrepidity, that he actually turned back and walked quietly away, leaving his tiny invader master of the field.'

'What a brave little thing!' exclaimed Harry ; 'how I should have liked to have seen it ! Where did you read this amusing tale ?'

'In the newspaper, my dear ; I will show it to you when we return home, which we really must do at once ; for we have been rambling about a very long time indeed to-day, nearly twice as long as we were yesterday ; so you see I have done my best to fulfil the promise which I made, to allow you to be out much longer to-day than we have ever been before.'

'I am so sorry that our home tour is again at an end,' said Harry, looking very miserable ; and Annie was even more vexed, for she was obliged to leave the Manx cat, which by this time was purring loudly, evidently quite appreciating her kindness.

To cheer the children, and also to divert their thoughts, I told them that the evening before, I had written expressly for them a short piece of poetry upon Natural History, bringing in all the letters of the alphabet, which I hoped would amuse them upon their return home, and that they could learn it by heart as a remembrance of their 'Second visit to Aunt Bessie.'

'Oh, how very nice!' said Annie, forgetting her

vexation at leaving the cat ; 'we will make haste back, Harry, I am so anxious to see the poetry.'

'I will just read it through once to you, my dears, and to-morrow morning when you leave me, I will give the lines to you ; they may help to amuse you in the train. Although we have again called this visit of yours "A Home Tour," when we have been out on our rambles, I think we have this time talked as much of foreign animals and insects as of *home* subjects.'

'Yes, Auntie ; but foreign creatures are quite as interesting as English ones,' replied Harry.

'I knew you would think so, my dear, and therefore I frequently branched off in this way.'

* * * * *

As soon as we reached home I read the following lines to the children, and then put them into an envelope and sealed it up, ready for them to take on their homeward journey on the morrow.

THE NATURALIST'S ALPHABET.

A stands for Ants, which sleep through the cold,
B for the Butcher-bird, cruel and bold ;
C begins Crow, Canary, and Cat,
D stands for Donkey, and Dog on the mat ;
E begins Eagle, and Earwig, and Eel,
F for the Fox, a fine fellow to steal ;
G is the Globe-fish, the Gnat, and the Goat,
H is our Hedgehog which lives by the moat ;
I the Ichneumon-fly, lazy and cunning,
J the wild Jackass, so famed for its running ;
K begins Kitten, Kingfisher, and Kite,
L the fierce Leopard, which prowls out at night ;
M is for Mavis, and Martin, and Mole,
N for the Nuthatch, that builds in a hole ;
O stands for Owl, with eyes large and round,
P for the Polecat, in pine-woods oft found ;
Q begins Quagga, and Queen-bee, and Quail,
R is the Rabbit, the Rat, and the Rail ;
S stands for Starling, and Swallow, and Seal,
T for the Turkey, the Tom-tit, and Teal ;
U begins Unicorn, well known in fable,
V is the Vampire, of bats the most able ;
W for Warbler, that sings as she flies,
X for old Xenophon, a naturalist wise ;
Y is the Yellow-hammer, joyous and bright,
Z stands for Zebra, with stripes black and white.

INDEX.

- Alpine flowers, 65
Ants, blind, 173
 — green, 172
 — Indian, 83
Aphis-flies, galls of, 120
Asparagus (cat eats), 80
- Balloon-fish, 11
Bee (humble), 24
Birds (Indian), 93
 — snake, and child, 15
Blind-worm, 142
Bottle-fish, 106
 — tit, 105
Brimstone butterfly, 66
Buff-tip moth, 73
Bustard, 157
Buzzard, 157
- Cabbages destroyed by caterpillars, 44
Cactus, 62
Carrier-pigeons, 153
- Cassowary, 176
Cat and Swallows, 125
Caterpillars, processions of, 67
 — of goat-moth, 71
 — resembling twigs, 74
Chaffinch, 108
Chameleon, 176
Click-beetle, 127
Cloak, nest in pocket of, 24
Cobra, 14
Cochineal insects, 164, 171
Corn-crake, 174
 — weevil, 128
Cows and Goats, different natures of, 152
Crabs, pugnacity of, 162
Cramp-fish, 12
Crane-fly, 129
Cuckoo-fly, 47
- Death's-head caterpillar, 85
Dingoes, 175
Dog and lantern, 122

Dog and raven, 56
 — news-carrier, 28
 — shepherd's, 29
 — catches hedgehog, 121
 — walks under water, 121

Eagle, 52
 Eider-duck, 182
 Electric ray-fish, 12
 Elephant, 99
 Emu, 176

Flying-fish, 10
 Fox and bull-dog, 140
 — stratagem of, 151
 — and chickens, 140

Globe-fish, 11
 Goat eats laurel leaves, 152
 — moth caterpillar, 71

Hanging nests, 68
 Hawking, 48
 Hedgehog, harmless, 148
 — kills vipers, 149

Heron, 52
 Hornets' nest, 85
 Horse, drover's, 23
 — sagacious, 24
 Huber, blind naturalist, 134
 Humming-bird moth, 152

Ichneumon, 46

Ichneumon-fly, 41
 Insects worried by ants, 85

Jackals, 93
 Jackdaw, 55

Kangaroo, 176
 King Henry and hawking, 49
 — Alfred and eagle's nest,
 52
 Kirby's tale, 72

Lackey-moth, 171
 Leaf-walking insect, 75
 — miner (of primrose-leaf),
 70
 — nests of caterpillars, 68
 — early formation of, 40
 Long-tailed titmouse, 105
 Lump-sucker fish, 11

Manx cat, 184
 Mason-pie bird, 115
 Meal-beetle, 128

Nettles, caterpillars' nests
 upon, 69
 Nuthatch, 115

Oak-leaf galls, 116

Palmer-worm, 41

- Pitcher-plant, 62
Pole-cat, 147
Prawns in Ganges, 98

Rabbits' care for their young,
 183
Raven, 54
Roach in India, 98
Robin's nest in bank, 104
 — sitting by fire, 116
Rooks' nests on spires, 102

Shark and ship, 174
Slow-worm, 142
Slugs' eyes, 144
Spiders, Indian, 83
 — water and raft, 164
Stickleback's nest, 3
 — fifteen-spined, 5
 — pugnacity of, 6
Stick-walking insect, 75

Snake-charmers, 32
 — destroyed by wild pigs, 16
Snake swallows its young, 13
Swan, sagacious, 113
Swallow-tail butterfly, 66

Tailor-birds' nests, 160
Tent-making caterpillars, 68
Titmouse, nest of, 105
Torpedo-fish, 12

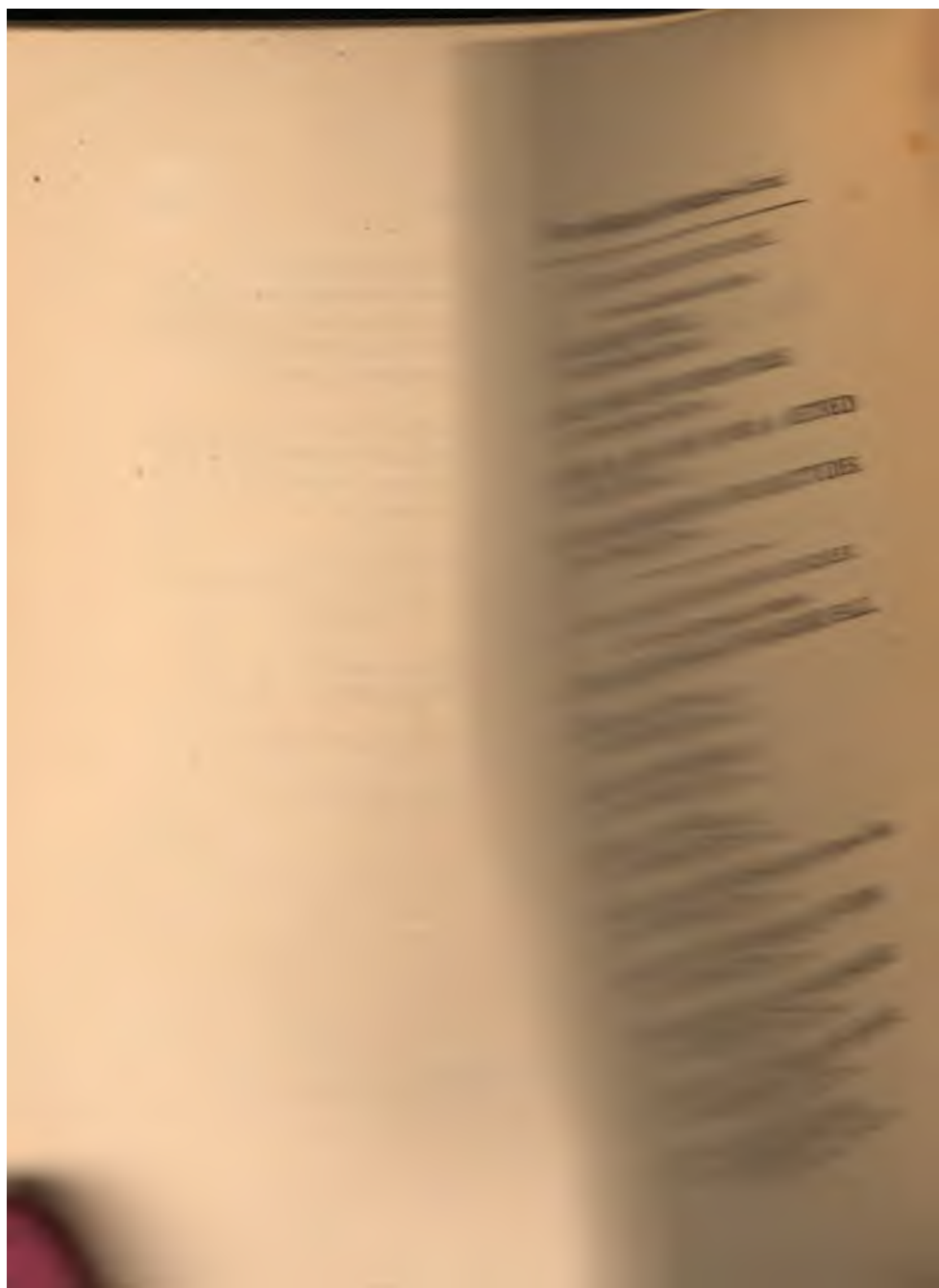
Virgil's lines, 128
Vipers destroyed by hedge-
 hogs, 149

Wire-worm, 127
Wood-pigeons' nests, 154

Xenophon on bees, 133
Yellow-hammer, 108

LONDON :

Printed by JOHN STRANGEWAYS, Castle St. Leicester Sq.



by the Author of 'The Peep of Day.'

KINGS OF ISRAEL AND JUDAH.

Published, in 18mo. with 27 Illustrations, 3s.

KEPT UPON PRECEPT.

Appears in One Volume.

Cloth, with 68 full-page Illustrations, 3s.

PEEP OF DAY ; or, a Series of the Earliest Religious Instruction the Infant Mind is capable of Receiving.

Thousand. Illustrated. 18mo. cloth, antique, 2s.

UPON LINE. Part I.

Second Series of the Earliest Religious Instruction the Infant Mind is capable of Receiving.

Thousand. Illustrated. 18mo, cloth, antique, 2s. 6d.

UPON LINE. Part II.

Thousand. Illustrated. 18mo. cloth, antique, 2s. 6d.

LEFT OUT ;

Some of the Histories Left Out in 'Line upon Line.'

Published, 25th Thousand, reduced, Illustrated, 18mo.
6s. 6d.

ABOUT JESUS.

Thousand. Illustrated. 18mo. cloth, antique, 2s. 6d.

ING WITHOUT TEARS ;

Pleasant Mode of Learning to Read.

Thousand. Illustrated. Square 16mo. cloth, 2s. 6d.

ING WITHOUT TEARS. Part II.

Thousand. Illustrated. Square 16mo. cloth, 3s.
(two in one, 5s.)

S FOR CHILDREN ;

Two Scripture Facts in Simple Language.

Thousand. Illustrated. In a Packet of Fifty-two Tracts,
together in cloth, 2s.

S OF LIGHT ; or, Fifty-two Facts from the
the Fifty-two Sundays of the Year.

Thousand. 15th Thousand. 52 Illustrations. 18mo. cloth, 3s.

Works by the Author of 'The Peep of Day.'—Continued.

12. **NEAR HOME** ; or, the Countries of Europe described to Children. With Anecdotes.
62nd Thousand. Illustrated. Foolsap, cloth, 5s.
13. **FAR OFF. Part I.** ; or, Asia Described.
With Anecdotes. 36th Thousand. Illustrated. Foolsap, cloth, 4s. 6d.
14. **FAR OFF. Part II.** ; or, Australia, Africa, and America Described. With Anecdotes.
26th Thousand. Illustrated. Fcap. cloth, 4s. 6d.
15. **THE NIGHT OF TOIL** ;
Or, a Familiar Account of the Labours of the First Four Missionaries in the South Sea Islands.
6th Edition. Illustrated. Fcap. cloth, 4s.
16. **LIGHT IN THE DWELLING** ;
Or, a Harmony of the Four Gospels.
With very Short and Simple Remarks, adapted for Reading and Family Prayers, and arranged in 365 Sections for every Day in the Year. By the Author of 'The Peep of Day,' &c.
26th Thousand. New Edition. 8vo. cloth, 8s. ; morocco, 18s.
17. **TEACHING MYSELF** ; or, an Abridgement of 'Reading without Tears.' For the Cottager in his own Home.
12th Thousand. Square 16mo. Illustrated, paper cover, 4d.
18. **THE ANGEL'S MESSAGE** ;
Or, the Saviour made known to the Cottager.
9th Thousand. Illustrated. Square 16mo. paper cover, 4d.

CHEAP EDITIONS FOR THE USE OF SCHOOLS.

In 18mo. limp cloth, with Illustrations.

THE PEEP OF DAY	...	...	1s. 2d.
LINE UPON LINE. Part I.	...	...	1s. 4d.
LINE UPON LINE. Part II.	...	...	1s. 4d.
LINES LEFT OUT ...	...	...	1s. 6d.
STREAKS OF LIGHT	...	...	1s. 6d.

146





